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ABSTRACT

Developed for use by curriculum planners in Emergency Medical Science (EMS) programs throughout the North Carolina Community College System (NCCCS), and by evaluators in their reviews of existing programs, this manual provides a model set of guidelines for the education and training of the Emergency Medical Technician-Paramedic (EMT-P) in pre-hospital settings. Chapter I presents information about the NCCCS, the EMS program, and the Competency-Based Curriculum Project from which the manual was produced. Chapter II reviews the legal statutes and regulations, and professional standards governing EMT-P practice; describes program accreditation procedures; reviews job titles; and describes job opportunities available to EMS program graduates. Chapter III reviews tasks, competencies, and evaluative criteria arranged by subject area and correlated to courses in the model curriculum. Chapter IV presents curriculum standards for EMS; describes the model curriculum; and presents course descriptions and outlines for 27 courses in the curriculum. The final chapter provides guidelines for EMS program implementation and support, reviewing the roles and responsibilities of the instructional faculty, program director, clinical faculty, medical director, and the advisory committee; outlining student admission, enrollment, and evaluation procedures; describing student progression through the training levels; reviewing physical plant facilities, equipment, library resources, and textbooks and references; and listing professional associations. Appendixes include accreditation standards; applicable state human resources regulations; project data; sample clinical evaluation criteria; and a suggested equipment list. (PAA)

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Curriculum Models, Guidelines, and Outcome-Competencies

EMERGENCY MEDICAL SCIENCE (T-139)

By

Barbara Keelor Lovin

1991

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FOREWORD

The North Carolina Department of Community Colleges and the State Board of Community Colleges encourage the institutions within the Community College System to offer and maintain curricula which meet standards for educational quality. This is to ensure that those citizens of North Carolina who enter programs provided by the System are offered the opportunity to obtain an education which meets the requirements for employment as well as those for matriculation to other institutions of higher education. To this end the State Board has instructed the Department to assist the institutions in the development of curricula, standards, and competencies for each program.

Graduates of the Emergency Medical Science programs offered by institutions of the System are expected to have the necessary knowledge and skills to perform the duties of the Emergency Medical Technician-Paramedic in a variety of pre-hospital settings. The purpose of this manual is to provide a model set of guidelines for the education and training of the Emergency Medical Technician-Paramedic and is the result of a Competency-Based Curriculum Project initiated and coordinated by the Program Development Services Division of the North Carolina Department of Community Colleges.

The curriculum guidelines presented in this manual should be considered the minimum standards to be used by curriculum planners throughout the System in the development of new programs in

Emergency Medical Science or by evaluators in their reviews of existing programs. In developing these guidelines, the current accreditation standards developed by the Joint Review Committee on Educational Programs for the Emergency Medical Technician-Paramedic have been incorporated.

Emergency Medical Science: Curriculum Models, Guidelines, and Competencies contains information concerning this competency-based curriculum development project including its goals, purpose, methods, and procedures; job opportunities and titles available to graduates of the Emergency Medical Science programs; task lists and use of the tasks, competencies, and evaluative criteria; and the curriculum standard and a suggested curriculum by quarters with course descriptions and course outlines.

Representatives from the North Carolina EMS Curriculum Educators Association including educators from all the Emergency Medical Science programs in the community college system participated in the task analysis phase of this project. They were also involved in the development of the model curriculum, clinical evaluation criteria, and equipment lists presented here.

The materials in this document supersede all previous publications of the Department of Community Colleges for Emergency Medical Science (T-139).

Chapter I contains information about the community college system and the Emergency Medical Science program. It also describes the purpose of the project and the procedures followed in carrying out the project.

Chapter II contains information concerning laws and regulations governing the practice of the emergency medical technician-paramedic (EMT-P) and job opportunities available to graduates of the Emergency Medical Science program.

Chapter III contains the tasks, competencies, and evaluative criteria arranged by subject area and correlated to courses in the model curriculum.

Chapter IV includes the curriculum standard for Emergency Medical Science (T-139), the model curriculum, and descriptions and outlines for the courses in that curriculum.

Chapter V describes the implementation process for a program in Emergency Medical Science. The process conforms to the essentials for accreditation established by the Joint Review Committee on Educational Programs for the Emergency Medical Technician-Paramedic.

The Appendices contain the accreditation standards, applicable North Carolina Department of Human Resources regulations, project data, sample clinical evaluation criteria, and a suggested equipment list.

ACKNOWLEDGEMENTS

This project required the assistance and support of members of the North Carolina EMS Curriculum Educators Association which is composed of faculty from the seven institutions which presently offer the associate degree program in Emergency Medical Science (T139) and the baccalaureate degree program in Emergency Medical Care at Western Carolina University. Members of the Association formed the Advisory Committee for this competency-based curriculum project.

The Department of Community Colleges and the project writer acknowledge with deep appreciation the assistance provided by the Competency-Based Curriculum Advisory Committee. Their unfailing dedication to this project in terms of time and resources demonstrates their committment to quality education while their input and critique reflect the strong knowledge base in emergency medical science which is the foundation of the educational programs with which they are affiliated.

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    Ned Fowler

Catawaba Valley Community College
    Martha McRae
    Bob Carpenter

Fayetteville Technical Community College
    Susan Norman

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Guilford Technical Community College
    Mary West
    Pat Smith
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Wake Technical Community College
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Wilson Technical College
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CHAPTER I

Chapter I

INTRODUCTION TO THE CURRICULUM DEVELOPMENT PROJECT

Background

An Emergency Medical Sciences curriculum has been in the Community College System since 1977. The first curriculum was a 120 credit hour program offered over a period of seven quarters. Prior to that time, training for emergency medical personnel in the community college system occurred on a part-time basis through continuing education.

Over the years the roles and responsibilities of emergency medical personnel have expanded. The curriculum has been modified to address the more defined roles of the emergency medical personnel. The current curriculum allows students to exit at the Emergency Medical Technician (EMT) level, the Emergency Medical Technician-Defibrillator (EMT-D) level, the Emergency Medical-Advanced Intermediate (EMT-AI) level or the Emergency Medical Technician-Paramedic (EMT-P) level. Completion of the two-year program at the paramedic level also results in students having received the credits necessary to obtain an associate degree. These allied health specialists are employed by ambulance, rescue, or aeromedical services, in specialty areas of hospitals, and by industry, educational institutions, and governmental agencies.

Vocational/Technical Education

The primary objective of the vocational/technical programs of the Community College System is to prepare individuals for employment in occupations for which the programs are designed and developed. This education should be consistent with the needs, abilities, and desires of the student and maintain quality standards that are consistent with employment requirements and state and federal laws. Since the development of the North Carolina Community College System, continuous concern and effort have been given to ensuring quality of programs, providing program guidelines, evaluating programs, improving the articulation process, and working with students, employers, and educators to determine the needs of both students and employers in industry and the public sector.

To further the development of quality vocational/technical programs and articulation between programs in the secondary schools and the community and technical colleges, the North Carolina Advisory Council on Vocational Education recommended in its 1975 Annual Report:

> That the State Board of Education require that all vocational curricula be designed to produce job entry skills, be based on performance objectives validated by recent job analysis and task analysis, and that parallel performance standards be established for completion of secondary and postsecondary programs, and that the State Board of Education immediately consider the most efficient, expedient method for attaining such a goal.

To begin implementation of the Advisory Council's recommendation and to continue to improve the development of quality vocational and technical curricula, the Program Development Services staff of the Department of Community Colleges designed a competency-based curriculum project in 1976 to be used to develop competencies for the vocational and technical curricula offered in the System. This project was developed to alleviate the following concerns about vocational/technical education:

1. That a quality of instruction is present which makes it possible for individuals completing a curriculum or phase of a curriculum to be prepared for employment.
2. That functional articulation exists between the secondary and post/secondary curricula.
3. That employers, employees, and educators be involved in curriculum development.
4. That curricula are current and in accordance with the technologies of the workplace.

Purpose of the Project

The purposes of the outcome-competency based curriculum development project are to: (a) describe the desired outcomes of occupational programs, (b) provide for increased consistency among programs, and (c) provide mechanisms for improved articulation with secondary and postsecondary occupational programs.

In response to concerns regarding vocational/technical education, the project is designed to provide: (a) a validated list of career opportunities for which each curriculum provides training and education, (b) the tasks performed by employees in each job, (c) a list of competencies and evaluative criteria essential to successfully perform in the job, (d) curriculum guidelines, and (e) curriculum materials based on outcome-competencies. The project specifically:

1. Identifies each curriculum to be analyzed.
2. Identifies resources for curriculum development.
3. Identifies career opportunities for each curriculum.
4. Identifies tasks performed on the job.
5. Identifies outcome-competencies and the level of competency for each task.
6. Provides evaluative criteria for each competency.
7. Provides information for development and/or revision of curriculum guidelines and materials.

Methods and Procedures

The procedure used in conducting the outcome-competency based project for the Emergency Medical Science curriculum consisted of the following.

1. Identification of the curriculum for which competencies were to be developed.
2. A search for existing outcome-competency based curriculum materials and educational materials used in Emergency Medical Science programs in the the Community College System.
3. Identification and validation of job titles currently used in the public and private sectors for the various certification levels of the emergency medical technician.

4. Development of a list of tasks by the Advisory Committee and validated by an employers and employees survey.

5. Development of the competency and evaluative criterion for each task.

6. Writing of a curriculum standard and its adoption by the Advisory Committee.

7. Development of a model curriculum by the Advisory Committee.

8. Writing of course descriptions and outlines to accompany the model curriculum.

Tasks

Input from employers and employees is one of the goals of the outcome-competency based curriculum project. One way this was accomplished in this project was through the development of the task list presented in this manual. The task list evolved from a listing of specific tasks and competencies developed in 1989 by the DACUM Project of Guilford Technical Community College (see Appendix A). The DACUM panel was composed of EMT-paramedics and paramedic supervisors who are also employers. This DACUM listing was then modified by the educators on the project Advisory Committee to incorporate current practice. As such, it reflects an understanding of the job by a cross section of those involved in education and employment.

The final task list includes skills that the graduate must know in order to function at a beginning level of competency. Because there currently exist in North Carolina five levels of certification of the emergency medical technician, the task list also reflects the lowest level of certification at which an individual can be expected to perform a particular task on the job. The job market and local regulations in certain locales may dictate the addition or deletion of tasks. In the future as practice standards change, additional tasks will need to be added to the list and competencies and evaluative criteria written to accompany them.

Since it is the responsibiltiy of the Advisory Committee to establish minimum tasks and competencies and not to determine what is taught or how to teach, the committee recommends that faculty members responsible for individual courses review the tasks and accompanying instructional content, learner activities, and outcome competencies and select those appropriate for classroom, clinical, and field experiences in their locale.

CHAPTER II

Chapter II

SCOPE OF PRACTICE, STANDARDS, JOB OPPORTUNITIES

In describing the scope of practice, regulatory authority, and professional standards for education and practice of the emergency medical technician (EMT) and, in particular, that of the EMT-paramedic, the information presented here is meant to assist program directors, instructors, and other interested parties including medical directors and advisory committee members, in determining the appropriate educational experiences for the emergency medical technician.

Background

The emergency medical technician-paramedic (EMT-P) is one of the newer members of the health care team. From its origins in the early 1970's in the states of Ohio, Florida, Washington and California, the concept of advanced life support rendered by a non-physician at the scene of an acute illness or injury has grown to encompass all 50 states where paramedics now serve urban, suburban, and rural populations.

Depending on the state, the EMT-P is either a certified or licensed member of the health care team. In North Carolina, certification is granted by the North Carolina Board of Medical Examiners. In addition to the EMT-P, the Board also certifies for practice at the advanced life support level the EMT-advanced intermediate (EMT-AI), the EMT-intermediate (EMT-I) and the EMT-defibrillation (EMT-D). While this manual is directed to the curriculum of the EMT-P, reference is made to the other levels of certification including that of the basic emergency medical technician (EMT). Students in an Emergency Medical Science program may achieve certain of these certifications by completing phases of the Emergency Medical Science curriculum and complying with other certification regulations as outlined in the North Carolina Administrative Code.

Scope of Practice of the EMT-Paramedic

The paramedic "provides prehospital emergency care under medical command authority to acutely ill and/or injured patients and/or transports patients by ambulance or other appropriate emergency vehicle" (JRCEMT-P, 1989, p. 5). So says the Joint Review Committee on Educational Programs for the Emergency Medical Technician-Paramedic in their description of the profession contained in the Essentials and Guidelines for an Accredited Program (1989). In order to fulfill the role of the EMT-P, an individual must be able to perform certain tasks which are outlined in this manual.

Statutes and Regulations

The practice of the EMT-P is governed by the General Statutes of North Carolina (G.S.N.C.) as well as the rules and regulations of the North Carolina Administrative Code (N.C.A.C.) (see Appendix C, D, & E).

The Emergency Medical Services Act of 1973, G.S.N.C. §§ 143-501-520 (1990) (see Appendix C), empowers the Department of Human Resources to establish an emergency medical services program for the state. It also authorizes the North Carolina Medical Care Commission to adopt rules and regulations to carry out Article 56 and Article 7 Regulation of Ambulance Services, G.S.N.C. §§ 131E-155-164 (1990) (see Appendix D).

Article 56 directs the Department of Human Resources to cooperate with state educational institutions to develop training programs for EMS personnel (G.S.N.C. § 143-514, 1990). In addition, it directs that graduates of these programs be permitted to perform at the level of their training in accordance with rules and regulations established by the Board of Medical Examiners (G.S.N.C. § 143-514, 1990). These rules and regulations, found in the North Carolina Administrative Code T21: 32H .0100-1000 (1990) (see Appendix E), govern the practice of the EMT-P, EMT-AI, EMT-I, and EMT-D.

The establishment of regulations governing the certification of the basic EMT is granted to the Medical Care Commission (G.S.N.C. §131E-157, 1990). Performance standards for the EMT are found in N.C.A.C. T10; 3D .1206 (1990) (see Appendix F).

Certification at all levels is handled through the North Carolina Department of Human Resources, Division of Facility Services, Office of Emergency Medical Services.

Professional Standards

While the general statutes and administrative code of North Carolina provide the laws and regulations which govern the practice of the EMT-paramedic, it is generally recognized that the practice of an allied health professional is also guided by professional standards of behavior. The National Association of Emergency Medical

Technicians (NAEMT) adopted The EMT Oath and The EMT Code of Ethics in 1978.

In addition, the "Essentials and Guidelines for an Accredited Educational Program", state that "the EMT-P should demonstrate: (1) an awareness of abilities and limitations; (2) the ability to relate to people: and (3) the capacity to make rational patient-care decisions under stress (JRCEMT-P, 1989, p. 5). All these guidelines serve to direct the professional in emergency medical service.

Accreditation

The Committee on Allied Health Education and Accreditation (CAHEA) grants accreditation to educational programs for the Emergency Medical Technician-Paramedic which meet or exceed standards of quality established by the Joint Review Committee on Allied Health Education for the EMT-Paramedic (JRCEMT-P) and which are recommended by the Joint Review Committee to CAHEA for accreditation. Member organizations of the Joint Review Committee include the American College of Emergency Physicians, the American College of Surgeons, the American Society of Anesthesiologists, the National Association of Emergency Medical Technicians, the National Registry of Emergency Medical Technicians, and the American Medical Association. Accreditation is currently voluntary in North Carolina. However, several southeastern states have mandated CAHEA accreditation for all paramedic programs within their borders.

The "Essentials and Guidelines for an Accredited Educational Program", the standards to be used for the development, evaluation, and self-study of EMT-P programs, were initially adopted by the JRCEMT-P in 1978 and revised in 1989 (see Appendix B). The extent to which a program complies with the essentials for accreditation as demonstrated by the submission of a self-study and an on-site review determines the accreditation status recommended to CAHEA by the Joint Review Committee. Accreditation is granted for a maximum of five years. Further information on accreditation of educational programs for the EMT-Paramedic may be obtained from:

Executive Secretary
Joint Review Committee on Educational Programs for the
EMT-Paramedic
1701 West Euless Blvd. Suite 200
Euless, TX 76040

or

Office of the Secretary
Allied Health Education and Accreditation
American Medical Association
535 North Dearborn Street
Chicago, IL 60610

Job Titles

Neither the Dictionary of Occupational Titles, (1977) nor the Supplement to the Dictionary of Occupational Titles (1982) make reference to the EMT-paramedic. The occupational title Emergency Medical Technician is an addition to the fourth edition of the dictionary as no reference is made to the EMT in the third edition of 1965. The fourth edition (p.65) offers the following job description for the EMT.

> 079.374-010 EMERGENCY MEDICAL TECHNICIAN (medical ser.)
> Administers first-aid treatment to and transports sick or injured persons to medical facility, working as member of emergency medical team: Responds to instructions from emergency medical dispatcher and drives specially equipped emergency vehicle to specified location. Monitors communication equipment to maintain contact with dispatcher. Removes or assists in removal of victims from scene of accident or catastrophe, to establish first aid procedures to be followed or need for additional assistance, basing decisions on statements of persons involved, examination of victim or victims, and knowledge of emergency medical practice. Administers prescribed first-aid treatment at site of emergency, or in specially equipped vehicle, performing such

> activities as application of splints, administration of oxygen or intravenous injections, treatment of minor wounds or abrasions, or administration of artificial resuscitation. Communicates with professional medical personnel at emergency treatment facility to obtain instruction regarding further treatment and to arrange for reception of victims at treatment facility. Assists in removal of victims from vehicle and transfer of victims to treatment center. Assists treatment center admitting personnel to obtain and record information related to victims' vital statistics and circumstances of emergency. Maintains vehicles and medical and communication equipment and replenishes first-aid equipment and supplies. May assist in controlling crowds, protecting valuables, or performing other duties at scene of catastrophe. May assist professional medical personnel in emergency treatment administered at medical facility.

While not particularly helpful in identifying job titles associated with the certification of EMT-P, this description when compared to the task list developed as part of this project demonstrates the expanding role for the EMT and the various advanced certification levels above EMT which has occurred since 1977.

Job Opportunities

The Emergency Medical Science program outlined in this manual will provide the opportunity for an individual to enter into an array of jobs at the entry level. Although the Emergency Medical Science program is designed for the education of the EMT-paramedic, students may leave the program following the completion of various phases associated with the various levels of EMT certification and find job opportunities available. Entry level positions are available with public and private providers of pre-hospital emergency medical service. EMS systems operating at levels below EMT-P may hire the

EMT-P graduate into a training or supervisory position. For this reason entry level job opportunities include training, supervisory, and administrative positions.

A review of Table IX, Emergency Medical Services in County Salaries (Burgess, 1991), is representative of the positions available. These include:

Emergency Medical Technician

Emergency Medical Technician-Defibrillator

Emergency Medical Technician-Intermediate

Emergency Medical Technician-Advanced Intermediate

Emergency Medical Technician-Paramedic

Emergency Medical Services Trainer/Administrator
    Crew Chief
    Training Officer
    Shift Supervisor
    Assistant Director

CHAPTER III

Chapter III

TASKS, COMPETENCIES, AND EVALUATIVE CRITERIA

The tasks, competencies, and evaluative criteria presented in this chapter form the foundation of instruction presented in curriculum form in Chapter IV.

Task Analysis

The task list was developed through a process known as task analysis. Task analysis begins with the identification of broad situational categories which the practitioner may be expected to encounter on the job. In this project these categories are referred to as subject areas. Descriptions of specific actions which are required to deal with these situational categories are then formulated. These actions become the specific tasks of each subject area. Competencies required to perform these tasks at a minimum acceptable level are identified and a specific competency is defined for each task (Knowles, 1980). Finally, an evaluative criterion is established for each defined competency. Each criterion provides a standard of judgement against which performance may be measured and ensures that a minimum acceptable level of performance is achieved.

Beginning with a list of EMT-Paramedic general competencies and specific tasks developed by the DACUM Project of Guilford Technical Community College (see Appendix A), the Competency-Based Curriculum Advisory Committee of this project worked to refine this original task list by combining, expanding, and deleting subject areas and tasks. General Areas of Competence developed as headings for specific groupings of tasks in the DACUM Project were reviewed and revised to become the subject areas of this task analysis. Such a revision then necessitated a review and revision of the tasks outlined for each subject area in the DACUM Project. Finally, courses of a model curriculum were developed which would provide the necessary instruction and ensure that graduates would have the knowledge and skills necessary to perform the tasks of the job.

Since subject areas define broad performance expectations, a subject area and the individual tasks encompassed by that subject area may appear in the instructional content of one or more curriculum courses. Further, although this project and the Emergency Medical Science curriculum focus on the education of paramedics, it is recognized that there exist several exit levels from the program corresponding to various EMT certification levels available in North Carolina. Specifically those are emergency medical technician (EMT), EMT-defibrillator (EMT-D), EMT-intermediate (EMT-I), EMT-advanced intermediate (EMT-AI), as well as EMT-paramedic (EMT-P). The Subject Area/Task List provided here also delineates those tasks individuals may expect to perform on the job at each of the levels of certification. As an individual attains a higher level of certification, performance of tasks assumed as part of the job at a lower level become tasks associated with a job performed at a more advanced level.

The Advisory Committee developed competencies for the first two subject areas to serve as a guide to the project writer in the development of competencies for the tasks in each of the remaining nine subject areas. Based on these competencies, evaluative criteria were developed by the project writer.

The Subject Area and Task Lists begin on page 21.

The Task Analysis/Course Correlation Charts begin on page 31.

Task

Tasks are specific pieces of work that graduates of the Emergency Medical Science curriculum may expect to perform in on-the-job situations. As such, they are defined with action verbs and presented without qualifiers. The task list presented here and expanded in the Task Analysis/Course Correlation Charts which follow is the result of a collaborative process of development and review. It has been used as a guide in developing the model curriculum presented in Chapter IV and can serve as the basis for the development or revision of Emergency Medical Science curriculums by program directors and advisory committees.

Competency

Competency implies adequate. It suggests that an individual possesses sufficient knowledge, skills, experience and insight for a particular purpose. In the context of task analysis, that purpose is the performance of a job-related task at a minimum level of proficiency. As such, competencies are described with action verbs and those qualifiers necessary to define proficiency. An outcome competency includes the expected results.

These competencies do not preclude the development of additional competencies by the instructor. However, in defining the minimum performance level expected of the entry level practitioner in the performance of job-related tasks, they define that minimum performance level which must be achieved by the student and assume that this performance will be assessed.

Evaluative Criterion

Evaluative criteria are standards for judging. In this context, judgement is made on the basis of that performance expected of an entry level practitioner. Each evaluative criterion is directly tied to the achievement level described by its competency and through that competency to the specific task. As such, specifics of the evaluation in terms of percentages, pass/fail criteria, number of successes, time limits, and the like are left to the wisdom of the instructional staff. Rather, these task-related criteria are oriented to the ultimate evaluation criterion, the ability of the practitioner to perform the tasks of the job. However, it is critical that the evaluative measures of competency developed, do, in fact, measure the competency of the task rather than assume competency or measure a competency other than that of the task (Langenbach, 1988).

Instructional Content

Each task presented initially in the Subject Area/Task List is expanded in the Task Analysis/Course Correlation Charts to include the instructional content, the learner activities, and outcome competencies associated with that content. The instructional content for each task outlines those aspects of each task where the student will require a base of theoretical or practical knowledge in order to perform the task in its entirety. It also contains those aspects of decision making and problem solving appropriate to the task and presents topics for reflection necessary for the development of ethical attitudes and behavior.

Learner Activities

The learner activities are the learning experiences which will lead the student to develop competency in the task. They are activities which require participation of the student and, in that sense, are measurable behaviors. It is expected that many of the learner activities will be part of the course work in more than a single course. Such repetition reinforces the behaviors or requires the student to utilize the behavior in a different context. This repetition is reflected in the course numbers associated with each task.

Outcome Competency

The outcome competency follows from the learner activity and is a measure of achievement as the student progresses towards competency in the task. The outcome competency is meant to evaluate only the particular learner activity. However, this competency may be expected of the student in various contexts as the particular activity is incorporated in the instructional content of various courses.

Table I

List of Subject Areas

A. Perform Patient Assessment

B. Provide Care at the Basic Life Support Level

C. Provide Care at the Advanced Life Support Level

D. Follow Infection Control Procedures

E. Coordinate Rescue Efforts, Gain Access, and Extricate

F. Communicate

G. Display Professionalism

H. Operate Emergency Vehicle

I. Document Actions

J. Strive for Physical and Psychological Well-Being

K. Coordinate Mass Casualty Incident

Table II

List of Tasks by Subject Area

A. Perform Patient Assessment
  - A-1 Conduct scene survey
  - A-2 Perform primary survey
  - A-3 Perform secondary survey
  - A-4 Reevaluate patient status

B. Provide Care at the Basic Life Support Level
  - B-1 Manage and maintain the airway
  - B-2 Administer oxygen
  - B-3 Immobilize the spine
  - B-4 Perform cardiopulmonary resuscitation
  - B-5 Control bleeding
  - B-6 Treat for shock
  - B-7 Obtain vital signs
  - B-8 Treat medical emergencies
  - B-9 Treat traumatic emergencies
  - B-10 Treat environmental medical emergencies
  - B-11 Utilize basic life support equipment on Category I ambulances
  - B-12 Provide psychological support
  - B-13 Provide information to patient/family
  - B-14 Intervene in crisis situations
  - B-15 Administer syrup of ipecac

C. Provide Care at the Advanced Life Support Level
  - C-1 Insert an esophageal airway
  - C-2 Perform endotracheal intubation
  - C-3 Perform cricothyroidotomy
  - C-4 Perform pleural decompression
  - C-5 Obtain an electrocardiogram
  - C-6 Interpret an electrocardiogram
  - C-7 Perform direct current (DC) countershock with automatic or semi-automatic defibrillator
  - C-8 Perform direct current (DC) countershock with manual defibrillator
  - C-9 Perform external cardiac pacing
  - C-10 Establish peripheral venous access
  - C-11 Obtain venous blood sample
  - C-12 Perform interosseous infusion

C-13 Administer medications on EMT-intermediate formulary
C-14 Administer medications on EMT-advanced intermediate formulary
C-15 Administer medications on EMT-paramedic formulary
C-16 Perform gastric lavage
C-17 Utilize advanced life support equipment on EMT-Intermediate performance list
C-18 Utilize advanced life support equipment on EMT-Advanced Intermediate performance list
C-19 Utilize advanced life support equipment on EMT-Paramedic performance list
C-20 Perform urinary catheterization

D. Follow Infection Control Procedures
D-1 Utilize protective equipment
D-2 Practice aseptic techniques
D-3 Dispose properly of biohazardous material
D-4 Sanitize and disinfect unit and equipment
D-5 Report significant exposure

E Coordinate Rescue Efforts, Gain Access, and Extricate
E-1 Protect self
E-2 Protect patient
E-3 Identify equipment and personnel needs
E-4 Utilize rescue equipment
E-5 Establish or function within an incident command system

F. Communicate
F-1 Develop professional rapport
F-2 Relay patient information
F-3 Communicate with special populations
F-4 Operate communication equipment

G Display Professionalism
G-1 Comply with federal, state, and local rules, regulations, and guidelines
G-2 Continue professional development
G-3 Protect confidentiality
G-4 Respect others
G-5 Demonstrate ethical behavior
G-6 Adhere to dress code
G-7 Maintain personal hygiene
G-8 Provide public education

H. Operate Emergency Vehicle
- H-1 Inventory vehicle equipment and supplies
- H-2 Apply occupant restraints
- H-3 Choose route
- H-4 Drive vehicle
- H-5 Position vehicle

I. Document Actions
- I-1 Complete ambulance call reports
- I-2 Complete incident/accident reports
- I-3 Complete daily activity log
- I-4 Complete supplemental forms
- I-5 Record acceptance, transfer, and use of controlled drugs

J. Strive for Physical and Psychological Well-Being
- J-1 Apply principles of body mechanics to lifting and moving patients and equipment
- J-2 Recognize stress and institute interventions

K. Coordinate Mass Casualty Incident
- K-1 Notify communication center
- K-2 Establish command center
- K-3 Establish interagency communications
- K-4 Perform patient triage
- K-5 Establish treatment area
- K-6 Establish staging area
- K-7 Request equipment and personnel
- K-8 Coordinate patient transport
- K-9 Coordinate perimeter security and scene safety
- K-10 Critique incident

Table III

List of Tasks by Certification Level

A.	Perform Patient Assessment	
A-1	Conduct scene survey	EMT
A-2	Perform primary survey	EMT
A-3	Perform secondary survey	EMT
A-4	Reevaluate patient status	EMT
B.	Provide Care at the Basic Life Support Level	
B-1	Manage and maintain the airway	EMT
B-2	Administer oxygen	EMT
B-3	Immobilize the spine	EMT
B-4	Perform cardiopulmonary resuscitation	EMT
B-5	Control bleeding	EMT
B-6	Treat for shock	EMT
B-7	Obtain vital signs	EMT
B-8	Treat medical emergencies	EMT
B-9	Treat traumatic emergencies	EMT
B-10	Treat environmental medical emergencies	EMT
B-11	Utilize basic life support equipment on Category I ambulances	EMT
B-12	Provide psychological support	EMT
B-13	Provide information to patient/family	EMT
B-14	Intervene in crisis situations	EMT
B-15	Administer syrup of ipecac	EMT
C.	Provide Care at the Advanced Life Support Level	
C-1	Insert an esophageal airway	EMT-I
C-2	Perform endotracheal intubation	EMT-AI
C-3	Perform cricothyroidotomy	EMT-P
C-4	Perform pleural decompression	EMT-P
C-5	Obtain an electrocardiogram	EMT-AI
C-6	Interpret an electrocardiogram	EMT-AI
C-7	Perform direct current (DC) countershock with automatic or semi-automatic defibrillator	EMT-D
C-8	Perform direct current (DC) countershock with manual defibrillator	EMT-AI
C-9	Perform external cardiac pacing	EMT-AI
C-10	Establish peripheral venous access	EMT-I
C-11	Obtain venous blood sample	EMT-I
C-12	Perform interosseous infusion	EMT-P

C-13	Administer medications on EMT-intermediate formulary	EMT-I
C-14	Administer medications on EMT-advanced intermediate formulary	EMT-AI
C-15	Administer medications on EMT-paramedic formulary	EMT-P
C-16	Perform gastric lavage	EMT-P
C-17	Utilize advanced life support equipment on EMT-Intermediate performance list	EMT-I
C-18	Utilize advanced life support equipment on EMT-Advanced Intermediate performance list	EMT-AI
C-19	Utilize advanced life support equipment on EMT-Paramedic performance list	EMT-P
C-20	Perform urinary catheterization	EMT-P

D. Follow Infection Control Procedures

D-1	Utilize protective equipment	EMT
D-2	Practice aseptic techniques	EMT
D-3	Dispose properly of biohazardous material	EMT
D-4	Sanitize and disinfect unit and equipment	EMT
D-5	Report significant exposure	EMT

E. Coordinate Rescue Efforts, Gain Access, and Extricate

E-1	Protect self	EMT
E-2	Protect patient	EMT
E-3	Identify equipment and personnel needs	EMT
E-4	Utilize rescue equipment	EMT
E-5	Establish or function within an incident command system	EMT

F. Communicate

F-1	Develop professional rapport	EMT
F-2	Relay patient information	EMT
F-3	Communicate with special populations	EMT
F-4	Operate communication equipment	EMT

G. Display Professionalism

G-1	Comply with federal, state, and local rules, regulations, and guidelines	EMT
G-2	Continue professional development	EMT
G-3	Protect confidentiality	EMT
G-4	Respect others	EMT
G-5	Demonstrate ethical behavior	EMT

G-6	Adhere to dress code	EMT
G-7	Maintain personal hygiene	EMT
G-8	Provide public education	EMT
H.	Operate Emergency Vehicle	
H-1	Inventory vehicle equipment and supplies	EMT
H-2	Apply occupant restraints	EMT
H-3	Choose route	EMT
H-4	Drive vehicle	EMT
H-5	Position vehicle	EMT
I.	Document Actions	
I-1	Complete ambulance call reports	EMT
I-2	Complete incident/accident reports	EMT
I-3	Complete daily activity log	EMT
I-4	Complete supplemental forms	EMT
I-5	Record acceptance, transfer, and use of controlled drugs	EMT-P
J.	Strive for Physical and Psychological Well-Being	
J-1	Apply principles of body mechanics to lifting and moving patients and equipment	EMT
J-2	Recognize stress and institute interventions	EMT
K.	Coordinate Mass Casualty Incident	
K-1	Notify communication center	EMT
K-2	Establish command center	EMT
K-3	Establish interagency communications	EMT
K-4	Perform patient triage	EMT
K-5	Establish treatment area	EMT
K-6	Establish staging area	EMT
K-7	Request equipment and personnel	EMT
K-8	Coordinate patient transport	EMT
K-9	Coordinate perimeter security and scene safety	EMT
K-10	Critique incident	EMT

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Perform Patient Assessment

TASK NUMBER: A-1 Conduct scene survey

COMPETENCY: Identify aspects of the scene relevant to safety, mechanism of illness or injury, and preservation of evidence.

COURSE NUMBERS: EMS 151 EMS 153 EMS 155 EMS 156 EMS 157 EMS 255 EMS 257

EVALUATIVE CRITERION: Perform rapid initial scene survey according to protocol.

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Scene Safety	Identify aspects of the emergency scene which pose a risk to the safety of the EMT or the patient.	Recognize aspects of an emergency scene which pose a risk to the safety of the EMT or the patient.
1. Physical environment a. terrain b. weather c. environment d. hazardous materials e. fire	Identify hazards which pose a risk to the safety of the EMT and/or the patient.	Recognize what constitutes an environmental hazard in an emergency situation.
2. Special situations a. hostage situations b. threat from bystanders c. assaults	Identify situations which pose a risk to the safety of the EMT and/or the patient.	Determine which emergency situations pose a safety hazard.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: A-1 Conduct scene survey (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
3. Protection a. equipment b. additional personnel	Identify equipment and manpower needs necessary to protect patient and rescue personnel.	Determine the equipment and/or personnel needed for a given emergency.
B. Mechanism of Illness/Injury		
1. Trauma injuries a. forces causing injury 1) blunt 2) penetrating 3) deceleration 4) thermal	Identify injuries produced by major categories of force.	Recognize the type of force as mechanism of injury for a variety of patient presentations.
b. injury patterns	Identify injuries produced by major categories of accidents.	Recognize common injury patterns for specific mechanisms of injury.
2. Illness	Identify major causes of acute illness.	Recognize illness as a causative mechanism of an acute emergency.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: A-1 Conduct scene survey (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
C. Preservation of Evidence		
1. Priority of patient care	Identify patient care needs while preserving evidence at a controlled crime scene.	Prioritize needs at a controlled crime scene.
2. Chain of evidence	Identify techniques which will preserve the chain of evidence.	Demonstrate techniques which preserve evidence at a crime scene.
3. Special situations a. rape b. domestic disputes c. weapon involved	Identify techniques which will preserve the chain of evidence in special situations.	Demonstrate techniques which preserve evidence in special situations.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Perform Patient Assessment

TASK NUMBER: A-2 Perform primary survey

COMPETENCY: Identify level of consciousness and status of airway, breathing, and circulation during initial patient contact and correct life-threatening conditions.

COURSE NUMBERS: EMS 151 EMS 153 EMS 155 EMS 156 EMS 157 EMS 255 EMS 257

EVALUATIVE CRITERION: Identify without error the presence or absence of a patient's vital functions and take action to correct conditions which are a threat to life.

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Level of Consciousness	Determine responsiveness in the conscious and unconscious patient.	Identify the level of consciousness in a variety of patient presentations.
B. Airway		
1. Status	Assess status of airway in conscious and unconscious patients.	Determine the status of the airway in conscious and unconscious patient situations.
2. Significance	Describe the significance of possible findings of airway status assessment.	Identify the significance of various airway status presentations.
3. Management a. trauma patient b. non-trauma patient c. infant	Demonstrate methods for opening an airway.	Employ appropriate techniques for opening the airway in a variety of patient presentations.

TASK NUMBER: A-2 Perform primary survey (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
4. Complications		
a. airway obstruction	Recognize airway obstruction and demonstrate methods for clearing an obstruction.	Identify an obstructed airway and employ techniques for clearing an obstructed airway in an adult, child, and infant according to AHA guidelines.
C. Breathing		
1. Status	Assess adequacy of breathing in conscious and unconscious patients.	Determine the adequacy of breathing in conscious and unconscious patient presentations.
2. Significance	Describe the significance of possible findings of breathing status assessment.	Identify the significance of various breathing status presentations.
3. Management		
a. non-breathing patient	Demonstrate methods for rescue breathing in the non-breathing patient.	Ventilate a non-breathing adult, child and infant according to AHA guidelines.
b. neck breathers	Demonstrate methods for rescue breathing a patient with a stoma.	Recognize the stoma patient and employ techniques for adequately ventilating such a patient.

TASK NUMBER: A-2 Perform primary survey (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
4. Complications		
a. gastric distension	Describe the patient risk and demonstrate rescue breathing techniques which reduce the possibility of gastric distension.	Employ techniques which adequately ventilate the patient and prevent gastric distension.
D. Circulation		
1. Pulse status a. location b. rate c. quality d. rhythm	Assess existence and adequacy of a patient pulse.	Determine the status of the pulse in a variety of patient presentations.
2. Significance	Describe the significance of possible findings of pulse assessment.	Identify the significance of various pulse presentations.
3. Management		
a. pulseless patient	Demonstrate chest compression in the pulseless patient.	Perform chest compressions on a pulseless adult, child, and infant according to AHA standards.
b. hemorrhage	Describe the significance and demonstrate techniques for controlling hemorrhage	Employ appropriate techniques for controlling hemorrhage.

TASK NUMBER: A-2 Perform primary survey (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
4. Complications a. injury to patient	Describe the injuries to the patient which may result from improper chest compressions.	Perform chest compressions on a pulseless adult, child, and infant according to AHA standards.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Perform Patient Assessment

TASK NUMBER: A-3 Perform secondary survey

COMPETENCY: Perform systematic subjective and objective evaluation of the patient following the primary survey.

COURSE NUMBERS: EMS 151 EMS 153 EMS 155 EMS 156 EMS 157 EMS 255 EMS 257

EVALUATIVE CRITERION: Systematically evaluate the patient from head to toe.

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Subjective Examination 1. Identify self 2. Reassure patient 3. Take a history a. chief complaint b. history of the present illness c. past medical history d. current medications e. allergies	Demonstrate techniques for obtaining information from the patient and others in the emergency setting.	Obtain information pertinent to the chief complaint, history of the present illness or injury, past medical history, current medications, and allergies in the emergency setting.
B. Objective Examination 1. Head to toe survey a. head b. neck c. chest d. abdomen and pelvis e. back f. lower extremities g. upper extremities	Demonstrate the techniques of inspection, palpation, and auscultation employed in a systematic evaluation of the patient in the emergency setting.	Determine the extent of patient injury by systematically evaluating the patient employing appropriate examination techniques.

TASK NUMBER: A-3 Perform secondary survey (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
2. Medical alert	Check for medical alert symbol.	Identify the common locations for the medical alert symbol on the emergency patient.
3. Neurological examination a. AVPU b. verbal response c. motor response d. sensory response e. pupillary response.	Demonstrate techniques for obtaining basic information concerning the status of the patient's neurological functions appropriate to the secondary survey.	Determine the status of a patient's neurological functioning by performing the mini-neurological examination.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Perform Patient Assessment

TASK NUMBER: A-4 Reevaluate patient status

COMPETENCY: Periodically reassess scene and patient's condition following the primary and secondary survey.

COURSE NUMBERS: EMS 151 EMS 153 EMS 155 EMS 156 EMS 157 EMS 255 EMS 257

EVALUATIVE CRITERION: Reevaluate scene and patient status in a timely manner.

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Significance of Reassessment	Describe the need for periodic patient reassessment.	Perform patient reassessment as warranted by the initial patient survey.
B. Scene Safety	Reassess safety, manpower, and equipment status conditions at the scene of an emergency.	Perform a reassessment of scene safety and manpower and equipment needs as warranted by initial survey and patient assessment.
C. Primary Survey	Reassess the status of the patient's level of consciousness, airway, breathing, and circulation.	Perform primary survey reassessment of the patient as warranted by the patient's condition.
D. Secondary Survey	Reassess the patient based on findings of the secondary survey.	Perform secondary survey reassessment of the patient as warranted by the patient's condition.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Provide Care at the Basic Life Support Level

TASK NUMBER: B-1 Manage and maintain the airway

COMPETENCY: Ensure patency of the airway at all times.

COURSE NUMBERS: EMS 151 EMS 153 EMS 155 EMS 156 EMS 157 EMS 255 EMS 257

EVALUATIVE CRITERION: Maintain a patent airway at all times.

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Airway Management 1. Open the airway a. head-tilt chin lift b. jaw thrust c. removal of airway obstruction	Demonstrate techniques for opening the airway through manual methods.	Employ appropriate techniques for opening the airway in a variety of patient presentations.
2. Airway adjuncts a. oropharyngeal airway b. nasopharyngeal airway c. suction equipment	Demonstrate the use of basic life support equipment in maintaining an open airway.	Employ appropriate airway adjunct equipment in the maintenance of a patent airway in a variety of patient presentations.
B. Ventilation Techniques 1. Unassisted rescue breathing a. mouth-to-mouth b. mouth-to-nose c. mouth-to-stoma	Demonstrate techniques for ventilating a patient without the use of adjunct equipment	Employ appropriate techniques for adequately ventilating the patient manually in a variety of presentations.

TASK NUMBER: B-1 Manage and maintain the airway (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
2. Ventilation assist devices a. pocket face mask b. bag-valve-mask	Demonstrate the use of basic life support equipment in ventilating the patient.	Employ appropriate techniques for adequately ventilating the patient using adjunct equipment in a variety of presentations.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA:	Provide Care at the Basic Life Support Level	EVALUATIVE CRITERION:	Provide supplemental oxygen to a patient in need of oxygen therapy.
TASK NUMBER:	B-2 Administer oxygen		
COMPETENCY:	Administer oxygen utilizing the needed oxygen delivery device		
COURSE NUMBERS:	EMS 152 EMS 153 EMS 155 EMS 157 EMS 255 EMS 257		

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Need for Supplemental Oxygen	Describe the patient in need of supplemental oxygen therapy.	
1. Respiratory arrest		Recognize the non-breathing patient as a candidate for supplemental oxygen therapy.
2. Hypoxia		Recognize the breathing patient who is a candidate for supplemental oxygen therapy.
B. Oxygen Equipment 1. Oxygen cylinders 2. Pressure regulators 3. Flowmeters 4. Humidifiers	Demonstrate the techniques of assembling oxygen equipment and preparing for oxygen administration to the patient.	Assemble equipment correctly for the administration of oxygen.

TASK NUMBER: B-2 Administer oxygen (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
C. Oxygen Delivery Devices 1. Nasal cannula 2. Face masks 3. Venturi masks 4. Bag-valve-mask 5. Demand valve resuscitator 6. Pocket mask with inlet	Describe candidates for supplemental oxygen therapy by various basic life support oxygen delivery devices. Demonstrate the technique for use of the basic life support oxygen delivery devices.	Employ techniques appropriate to the delivery of supplemental oxygen to patients in a variety of presentations.
D. Hazards 1. Non-medical hazards	Describe the non-medical hazards associated with the use of supplemental oxygen. Demonstrate the techniques of handling oxygen delivery equipment which avoid the non-medical hazards.	Employ techniques appropriate to the delivery of supplemental oxygen which avoid risk to the patient and practitioner from the non-medical hazards of this therapy.
2. Medical hazards	Describe patient conditions where supplemental oxygen may place the patient at risk.	Identify those patients at risk from supplemental oxygen from a variety of patient presentations.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: B-2 Administer oxygen (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
E. Techniques of Administration		
1. Non-breathing patient	Demonstrate techniques of administering oxygen to the non-breathing patient	Employ the appropriate devices and techniques for delivering supplemental oxygen to non-breathing adults, children, and infants.
2. Breathing patient	Demonstrate techniques of administering oxygen to the breathing patient	Employ the appropriate devices and techniques for delivering supplemental oxygen to breathing adults, children, and infants in a variety of presentations.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Provide Care at the Basic Life Support Level

TASK NUMBER: B-3 Immobilize the spine

COMPETENCY: Stabilize the spine as indicated by the mechanism of injury.

COURSE NUMBERS: EMS 152 EMS 153 EMS 156 EMS 255 EMS 257

EVALUATIVE CRITERION: Immobilize the spine of the patient with a suspected spinal injury.

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Mechanism of Injury 1. Accident 2. Penetrating injury 3. Unconscious 4. Head trauma	Describe conditions which may cause the rescuer to suspect spinal injury.	Recognize without error the patient requiring spinal immobilization.
B. Assessing for Spinal Injuries 1. Conscious patient 2. Unconscious patient	Demonstrate techniques for determining possible spinal injury.	Determine the status of the spinal cord in conscious and unconscious patient presentations.
C. Temporary Immobilization 1. Manual axial stabilization	Demonstrate techniques for manually stabilizing the cervical spine.	Manually stabilize the cervical spine in a variety of patient presentations.
2. Cervical collar application a. seated b. supine	Demonstrate techniques for the application of a cervical collar to the suspected spinal injury patient.	Apply a cervical collar while maintaining manual stabilization in a variety of patient presentations.

TASK NUMBER: B-3 Immobilize the spine (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
D. Moving the Spinal Injury Patient 1. Log rolls	Demonstrate techniques for moving a spine injured patient to a transfer device.	Move the spine injured patient to a transfer device while maintaining spinal alignment and stabilization using varying numbers of rescuers.
E. Secured Immobilization		
1. Spine boards	Demonstrate techniques for immobilizing a spine injured patient to a long spine board.	Secure the spine injured patient to a long spine board.
2. Head immobilization	Demonstrate techniques for immobilizing the head of a spine injured patient on a spine board.	Secure the head of a spine injured patient to a spine board.
F. Special Situations		
1. Removal from vehicles		
a. use of extrication devices	Demonstrate procedures for applying a variety of devices to seated spine injured patients.	Remove a spine injured occupant from a vehicle using an extrication device.

TASK NUMBER: B-3 Immobilize the spine (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
b. rapid extrication	Describe situations requiring the removal of a spine injured patient from a vehicle without delay	Identify extrication situations which threaten the well being of the patient.
	Demonstrate the techniques for rapid removal of the compromised spine injured patient.	Remove the compromised spine injured patient from a vehicle rapidly while maintaining spinal immobilization without the use of extrication equipment.
2. Removal from water	Demonstrate the technique for removing the spine injured patient from the water on a spine board.	While insuring rescuer safety, remove a spine injured patient from the water on a short board.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Provide Care at the Basic Life Support Level

TASK NUMBER: B-4 Perform cardiopulmonary resuscitation(CPR)

COMPETENCY: Perform CPR when confronted with a pulseless, non-breathing patient.

COURSE NUMBERS: EMS 152 EMS 153 EMS 155 EMS 157 EMS 255 EMS 257

EVALUATIVE CRITERION: Perform CPR on adults, children, and infants according to American Heart Association (AHA) standards.

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Level of Consciousness	Demonstrate the steps in determining unresponsiveness.	Determine unresponsiveness according to American Heart Association (AHA) performance guidelines.
B. Assistance	Call for help after establishing need.	Call for help as prescribed by AHA performance guidelines.
B. Open Airway 1. non-trauma patient a. adult b. child c. infant 2. trauma patient	Demonstrate methods for opening an airway.	Employ appropriate techniques as outlined in AHA performance guidelines for opening the airway in a variety of patient presentations.

TASK NUMBER: B-4 Perform cardiopulmonary resuscitation (CPR) (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
C. Breathing 1. Assessment a. adult b. child c. infant	Demonstrate methods for assessing breathlessness.	Determine breathlessness in a variety of patients according to AHA performance guidelines.
2. Ventilation a. adult b. child c. infant	Demonstrate techniques for initial rescue breathing of the nonbreathing patient.	Perform initial ventilation on a non-breathing adult, child, and infant according to AHA performance guidelines.
d. neck breather	Demonstrate methods for rescue breathing a patient with a stoma.	Recognize the stoma patient and employ techniques for adequately ventilating such a patient.
D. Circulation 1. Assessment a. adult b. child c. infant	Demonstrate methods for assessing pulselessness.	Determine pulselessness in the adult, child and infant according to AHA performance guidelines.
2. Reporting	State the results of the assessment of the pulse when working with another rescuer	Alert another rescuer to a pulseless patient condition.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: B-4 Perform cardiopulmonary resuscitation (CPR) (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
3. Chest compressions a. adult b. child c. infant	Demonstrate the methods of chest compression for the pulseless patient.	Perform chest compressions on a pulseless adult, child, and infant according to AHA performance guidelines.
D. Compression/Ventilation Cycles 1. One rescuer CPR a. adult b. child c. infant 2. Two rescuer CPR a. adult b. child	Demonstrate the sequence for providing chest compressions and ventilations to the pulseless/breathless patient.	Perform chest compressions and ventilations for a variety of pulseless, breathless patients according to AHA performance guidelines.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Provide Care at the Basic Life Support Level

TASK NUMBER: B-5 Control bleeding

COMPETENCY: Apply techniques of hemorrhage control to prevent blood loss.

COURSE NUMBERS: EMS 151 EMS 152 EMS 153 EMS 156 EMS 255

EVALUATIVE CRITERION: Prevent additional blood loss in the patient with hemorrhage.

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. External Hemorrhage Control 1. Direct pressure a. pressure dressing	Demonstrate techniques for controlling external bleeding through direct pressure.	Apply direct pressure to various wound sites while avoiding all contact with the patient's body fluids.
2. Elevation	Demonstrate techniques for combining elevation with direct pressure to control external bleeding	Elevate wounded extremities once direct pressure is applied.
3. Pressure points	Describe the location and use of pressure points which may be employed to control bleeding.	Apply pressure to the appropriate pressure point for a given wound.
4. Inflation devices a. air splints b. blood pressure cuffs	Demonstrate techniques for controlling extremity bleeding with inflation devices.	Apply an inflation device appropriately to an extremity to control bleeding.

TASK NUMBER: B-5 Control bleeding (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
5. Tourniquet	Describe the procedure for use of a tourniquet to control external bleeding.	Recognizes circumstances requiring a tourniquet.
	Demonstrate techniques for applying tourniquets.	Apply a tourniquet while observing precautions to ensure patient safety.
B. Internal Hemorrhage Control 1. Recognition	Describe the patient with internal hemorrhage.	Recognize the patient with internal hemorrhage from a variety of patient presentations.
2. Application of military anti-shock garment (MAST)	Describe conditions which make a patient with internal hemorrhage a candidate for MAST.	Recognize the patient with internal hemorrhage who may benefit from the use of MAST.
	Demonstrate the procedure for applying MAST to the patient with internal bleeding.	Apply MAST according to local protocol.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Provide Care at the Basic Life Support Level

TASK NUMBER: B-6 Treat for shock

COMPETENCY: Perform techniques required to maintain adequate perfusion.

COURSE NUMBERS: EMS 151 EMS 152 EMS 153 EMS 156 EMS 255

EVALUATIVE CRITERION: Initiate procedures to maintain adequate perfusion in a patient.

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Types of Shock		
1. Hypovolemic a. signs b. symptoms	Describe those conditions contributing to shock from inadequate fluid volume.	Recognize the hypovolemic shock patient from a variety of patient presentations.
2. Cardiogenic a. signs b. symptoms	Describe those conditions contributing to shock from ineffective pumping action of the heart.	Recognize the cardiogenic shock patient from a variety of patient presentations.
3. Neurogenic a. signs b. symptoms	Describe those conditions contributing to shock from inadequate blood vessel tone.	Recognize the neurogenic shock patient from a variety of patient presentations.
B. Prevention		
1. Recognition	Describe the patient at risk for shock.	Recognize the patient at risk for shock from a variety of patient presentations.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: B-6 Treat for shock (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
2. Intervention a. control cause b. administer oxygen c. monitor vitals d. position patient e. maintain body temperature	Demonstrate basic life support measures which can be taken to prevent shock.	Employ techniques appropriate to the prevention of shock at the basic life support level.
C. Management		
1. Airway and breathing	Demonstrate the techniques of airway management.	Ensure an adequate airway and breathing in the shock patient.
2. Control cause	Recognize controllable causes of shock and demonstrate control procedures.	Employ techniques to control the causes of shock.
3. Administer oxygen	Demonstrate the techniques of oxygen administration.	Administer oxygen to the shock patient.
4. Patient packaging	Demonstrate patient positioning and covering techniques appropriate to the shock patient.	Position the shock patient to ensure optimum perfusion and maintenance of body temperature.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: B-6 Treat for shock (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
2. Application of military anti-shock garment (MAST)	Describe conditions which make a shock patient a candidate for MAST.	Recognize the patient with shock who may benefit from the use of MAST.
	Demonstrate the procedure for applying MAST to the patient in shock.	Apply MAST according to local protocol.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Provide Care at the Basic Life Support Level

EVALUATIVE CRITERION: Obtain an accurate set of vital signs.

TASK NUMBER: B-7 Monitor vital signs
COMPETENCY: Assess vital signs as required.

COURSE NUMBERS: EMS 152 EMS 153 EMS 155 EMS 157 EMS 255 EMS 257

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Pulse		
1. Location a. adult b. infant	Describe the body locations available for obtaining a pulse.	Locate the pulse in the adult and infant.
2. Determination a. adult b. infant	Demonstrate the technique for taking a pulse.	Obtain an accurate pulse.
3. Characteristics a. rate b. rhythm c. quality	Describe the parameters of a pulse.	Report the results of taking a pulse.
4. Variations a. adult b. child c. infant d. abnormalities	Describe the significance of pulse differences.	Interpret the results of a pulse obtained in a variety of adult, child, and infant presentations.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: B-7 Monitor vital signs (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
B. Blood Pressure		
1. Determination a. auscultation b. palpation	Demonstrate the technique for taking a blood pressure.	Obtain an accurate blood pressure
2. Characteristics a. sounds b. spacing	Describe the parameters of a blood pressure.	Report the results of taking a blood pressure.
3. Variations a. adult b. child c. infant	Describe the significance of differences in blood pressures.	Interpret the results of blood pressures in a variety of patient presentations.
C. Respirations		
1. Determination	Demonstrate techniques for obtaining information about patient respirations.	Assess respirations accurately.
2. Characteristics a. rate b. rhythm c. quality	Describe the parameters of patient respirations.	Report the results of the assessment of respirations.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: B-7 Monitor vital signs (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
3. Variations a. adult b. child c. infant d. abnormalities	Describe the significance of differences in respirations.	Interpret the results of respirations in a variety of patient presentations.
D. Skin		
1. Determination a. temperature b. color c. moisture	Demonstrate techniques for obtaining information about the patient from the condition of the skin.	Assess patient skin accurately.
2. Characteristics	Describe the characteristics for each parameters of the patient's skin.	Report the results of the assessment of the patient's skin.
3. Variations	Describe the significance of differences obtained in an assessment of the skin.	Interpret the results of assessment of the skin in a variety of patient presentations.
E. Pupils		
1. Determination	Demonstrate techniques for obtaining information about the patient from the condition of the pupils.	Assess pupils accurately in the patient.

TASK NUMBER: B-7 Monitor vital signs (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
2. Characteristics	Describe the parameters of the pupils.	Report the results of the assessment of the patient's pupils.
3. Variations	Describe the significance of differences obtained in an assessment of the skin.	Interpret the results of an assessment of the pupils in a variety of patient presentations.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Provide Care at the Basic Life Support Level

TASK NUMBER: B-8 Treat medical emergencies

COMPETENCY: Utilize techniques and procedures needed to stabilize the patient with a medical emergency.

COURSE NUMBERS: EMS 151 EMS 153 EMS 155 EMS 157 EMS 257

EVALUATIVE CRITERION: Treat the patient presenting with a medical emergency.

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Cardiovascular Emergencies 1. Acute illnesses a. angina b. myocardial infarction c. stroke d. congestive heart failure	Describe the cause and patient presentation of the common cardiovascular emergencies.	Recognize the cardiovascular emergency patient.
2. Findings a. subjective	Demonstrate techniques for obtaining information from the patient and others in the setting of a cardiovascular emergency.	Obtain information pertinent to the chief complaint, history of the present illness, past medical history, current medications, and allergies in the setting of a cardio-vascular emergency.
b. objective	Demonstrate the techniques appropriate to a systematic evaluation of the cardio-vascular emergency patient.	Systematically evaluate the patient presenting with a cardiovascular emergency.

TASK NUMBER: B-8 Treat medical emergencies (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
3. Emergency care	Demonstrate emergency patient care procedures for the cardiovascular patient.	Render appropriate emergency basic life support care to the patient presenting with a cardiovascular emergency.
B. Respiratory Emergencies 1. Acute illnesses a. dyspnea b. hyperventilation c. chronic obstructive pulmonary disease(COPD) d. asthma e. pulmonary edema f. anaphalyxis	Describe the cause and patient presentation of the common respiratory emergencies.	Recognize the respiratory emergency patient.
2. Findings a. subjective	Demonstrate techniques for obtaining information from the patient and others in the setting of a respiratory emergency.	Obtain information pertinent to the chief complaint, history of the present illness, past medical history, current medications, and allergies in the setting of a respiratory emergency.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: B-8 Treat medical emergencies (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
b. objective	Demonstrate the techniques appropriate to a systematic evaluation of the respiratory emergency patient.	Systematically evaluate the patient presenting with a respiratory emergency.
3. Emergency care	Demonstrate emergency patient care procedures for the cardiovascular patient.	Render appropriate emergency basic life support care to the patient presenting with a respiratory emergency.
C. Diabetic Emergencies 1. Acute illnesses a. hypoglycemia b. diabetic ketoacidosis	Describe the cause and patient presentation of the common diabetic emergencies.	Recognize the diabetic emergency patient.
2. Findings a. subjective	Demonstrate techniques for obtaining information from the patient and others in the setting of a diabetic emergency.	Obtain information pertinent to the chief complaint, history of the present illness, past medical history, current medications, and allergies in the setting of a diabetic emergency.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: B-8 Treat medical emergencies (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
b. objective	Demonstrate the techniques appropriate to a systematic evaluation of diabetic emergency patient.	Systematically evaluate the patient presenting with a diabetic emergency.
3. Emergency care	Demonstrate emergency patient care procedures for the diabetic patient.	Render appropriate emergency basic life support care to the patient presenting with a diabetic emergency.
D. Neurological Emergencies 1. Acute illnesses a. seizures b. status epilepticus	Describe the cause and patient presentation of the common neurologic emergencies.	Recognize the neurologic emergency patient.
2. Findings a. subjective	Demonstrate techniques for obtaining information from the patient and others in the setting of a neurological emergency.	Obtain information pertinent to the chief complaint, history of the present illness, past medical history, current medications, and allergies in the setting of a neurological emergency.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: B-8 Treat medical emergencies (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
b. objective	Demonstrate the techniques appropriate to a systematic evaluation of neurological emergency patient.	Systematically evaluate the patient presenting with a neurological emergency.
3. Emergency care	Demonstrate emergency patient care procedures for the neurological patient.	Render appropriate emergency basic life support care to the patient presenting with a neurological emergency.
E. Abdominal Emergencies 1. Acute illnesses a. appendicitis b. pain	Describe the cause and patient presentation of the common abdominal emergencies.	Recognize the abdominal emergency patient.
2. Findings a. subjective	Demonstrate techniques for obtaining information from the patient and others in the setting of an abdominal emergency.	Obtain information pertinent to the chief complaint, history of the present illness, past medical history, current medications, and allergies in the setting of an abdominal emergency.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: B-8 Treat medical emergencies (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
b. objective	Demonstrate the techniques appropriate to a systematic evaluation of abdominal emergency patient.	Systematically evaluate the patient presenting with an abdominal emergency.
3. Emergency care	Demonstrate emergency patient care procedures for the abdominal patient.	Render appropriate emergency basic life support care to the patient presenting with an abdominal emergency.
F. Infectious Diseases 1. Acute illnesses a. bacterial b. viral	Describe the cause and patient presentation of serious infectious diseases.	Recognize the emergency infectious disease patient.
2. Findings a. subjective	Demonstrate techniques for obtaining information from the patient and others in the setting of an infectious disease emergency.	Obtain information pertinent to the chief complaint, history of the present illness, past medical history, current medications, and allergies in the setting of an infectious disease emergency.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: B-8 Treat medical emergencies (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
b. objective	Demonstrate the techniques appropriate to a systematic evaluation of the emergency patient with an infectious disease.	Systematically evaluate the patient presenting with an infectious disease emergency.
3. Emergency care	Demonstrate emergency patient care procedures for the patient with an infectious disease.	Render appropriate emergency basic life support care to the patient presenting with an infectious disease emergency.
4. Personal safety	Demonstrate precautionary techniques appropriate to the care of the patient with an infectious disease emergency.	Render emergency care to the patient with an infectious disease while observing personal safety precautions.
G. Poisonings 1. Acute situations a. ingested substances b. inhales substances c. absorbed substances d. injected substances	Describe the cause and patient presentation of the common poisoning emergencies.	Recognize immediately the poisoned patient.

TASK NUMBER: B-8 Treat medical emergencies (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
2. Findings a. subjective	Demonstrate techniques for obtaining information from the patient and others in the setting of a poisoning emergency.	Obtain information pertinent to the chief complaint, history of the present illness, past medical history, current medications, and allergies in the setting of a poisoning emergency.
b. objective	Demonstrate the techniques appropriate to a systematic evaluation of the patient with a poison emergency.	Systematically evaluate the patient presenting with a poison emergency.
3. Emergency care	Demonstrate emergency patient care procedures for the poisoned patient.	Render appropriate emergency basic life support care to the patient presenting with a poisoning emergency.
H. Substance Abuse 1. Acute situations a. overdose	Describe the cause and patient presentation of the common substance abuse emergencies.	Recognize the patient with a substance abuse emergency.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: B-8 Treat medical emergencies (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
2. Findings		
a. subjective	Demonstrate techniques for obtaining information from the patient and others in the setting of a substance abuse emergency.	Obtain information pertinent to the chief complaint, history of the present illness, past medical history, current medications, and allergies in the setting of a substance abuse emergency.
b. objective	Demonstrate the techniques appropriate to a systematic evaluation of emergency substance abuse patient.	Systematically evaluate the patient presenting with a substance abuse emergency.
3. Emergency care	Demonstrate emergency patient care procedures for the substance abuse patient.	Render appropriate emergency basic life support care to the patient presenting with a substance abuse emergency.
4. Personal safety	Demonstrate precautionary techniques appropriate to the care of the patient with a substance abuse emergency.	Render emergency care while observing personal safety precautions to the patient presenting with a substance abuse emergency.

TASK NUMBER: B-8 Treat medical emergencies (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
H. Pediatric Emergencies 1. Acute situations a. fever b. seizures c. croup d. epiglottitis e. sudden infant death f. abuse g. poisoning	Describe the cause and patient presentation of the common pediatric emergencies.	Recognize the pediatric emergency patient.
2. Findings a. subjective	Demonstrate techniques for obtaining information from the patient and others in the setting of a pediatric medical emergency.	Obtain information pertinent to the chief complaint, history of the present illness, past medical history, current medications, and allergies in the setting of a pediatric medical emergency.
b. objective	Demonstrate the techniques appropriate to a systematic evaluation of a pediatric patient presenting with a medical emergency.	Systematically evaluate the pediatric patient presenting with a medical emergency.

TASK NUMBER: B-8 Treat medical emergencies (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
3. Emergency care	Demonstrate emergency patient care procedures for the pediatric patient presenting with a medical emergency.	Render appropriate emergency basic life support care to the pediatric patient presenting with a medical emergency.
I. Obstetric Emergencies 1. Acute situations a. emergency childbirth b. eclampsia c. abortion d. ectopic pregnancy e. ruptured uterus f. abnormal deliveries g. stillborn	Describe those situations and the patient presentations resulting in obstetric emergencies.	Recognize the obstetric emergency patient.
2. Findings a. subjective	Demonstrate techniques for obtaining information from the patient and others in the setting of an obstetric emergency.	Obtain information pertinent to the chief complaint, history of the present illness, past medical history, current medications, and allergies in the setting of an obstetric emergency.

TASK NUMBER: B-8 Treat medical emergencies (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
b. objective	Demonstrate the techniques appropriate to a systematic evaluation of a patient presenting with an obstretric emergency.	Systematically evaluate the patient presenting with an obstetric emergency.
3. Emergency care	Demonstrate emergency patient care procedures for the patient presenting with an obstetric emergency.	Render appropriate emergency basic life support care to the patient presenting with an obstetric emergency.
J. Geriatric Emergencies 1. Altered reaction to illness a. pain b. temperature regulation c. mental status d. thirst mechanism	Describe the variations in presentation of common medical emergencies in the elderly.	Recognize the geriatric emergency patient.
2. Findings a. subjective	Demonstrate techniques for obtaining information from the patient and others in the setting of a geriatric medical emergency.	Obtain information pertinent to the chief complaint, history of the present illness, past medical history, current medications, and allergies in the setting of a geriatric medical emergency.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: B-8 Treat medical emergencies (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
b. objective	Demonstrate the techniques appropriate to a systematic evaluation of a geriatric patient presenting with a medical emergency.	Systematically evaluate the geriatric patient presenting with a medical emergency.
3. Emergency care	Demonstrate emergency patient care procedures for the geriatric patient presenting with a medical emergency.	Render appropriate emergency basic life support care to the geriatric patient presenting with a medical emergency.

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EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Provide Care at the Basic Life Support Level

TASK NUMBER: B-9 Treat traumatic emergencies

COMPETENCY: Utilize techniques and procedures needed to stabilize the patient with a traumatic emergency.

COURSE NUMBERS: EMS 151 EMS 152 EMS 153 EMS 156 EMS 255

EVALUATIVE CRITERION: Treat the victim of a traumatic injury.

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Soft Tissue Injuries		
1. Types of injury a. open wounds b. closed wounds c. amputation d. impaled objects e. blunt injuries	Describe patient presentations for common traumatic soft tissue injuries.	Recognize the victim of a traumatic soft tissue injury.
2. Injury site a. extremities b. head c. neck d. chest e. abdomen f. genitourinary tract		

TASK NUMBER: B-9 Treat traumatic emergencies (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
3. Findings a. subjective	Demonstrate techniques for obtaining information from the patient and others relative to a traumatic soft tissue injury.	Obtain pertinent information relative to the chief complaint, past medical history, medications, and allergies from the victim of a traumatic soft tissue injury.
b. objective	Demonstrate techniques appropriate to an evaluation of the patient with a traumatic soft tissue injury.	Evaluate accurately the patient with a traumatic soft tissue injury.
4. Emergency care a. dressing and bandage	Demonstrate basic life support emergency care procedures for the patient with a traumatic soft tissue injury.	Treat the patient with a traumatic soft tissue injury according to basic life support emergency care procedures.
5. Complications a. shock b. infection	Describe the medical complications which may develop from traumatic soft tissue injuries	Recognize and treat according to basic life support emergency care procedures, the complications which develop following traumatic soft tissue injury

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: B-9 Treat traumatic emergencies (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
B. Musculoskeletal Injuries 1. Types of injury a. fractures b. dislocations c. sprains d. strains	Describe patient presentations for common traumatic musculoskeletal injuries.	Recognize accurately the victim of a traumatic musculoskeletal injury.
2. Injury site a. upper extremities b. lower extremities c. skull d. spine e. chest f. pelvis		
3. Findings a. subjective	Demonstrate techniques for obtaining information from the patient and others relative to a traumatic musculoskeletal injury.	Obtain pertinent information relative to the chief complaint, past medical history, medications, and allergies from the victim of a traumatic musculoskeletal injury.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: B-9 Treat traumatic emergencies (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
b. objective	Demonstrate techniques appropriate to an evaluation of the patient with a traumatic musculoskeletal injury.	Evaluate the patient with a traumatic musculoskeletal injury.
4. Emergency care a. positioning b. splinting	Demonstrate basic life support emergency care procedures for the patient with a traumatic musculoskeletal injury.	Treat the patient with a traumatic musculoskeletal injury according to basic life support emergency care procedures.
5. Complications a. shock b. impaired circulation c. nerve damage d. infection	Describe the medical complications which may develop from traumatic musculoskeletal injuries.	Recognize and treat according to basic life support emergency care procedures, the complications which develop following traumatic musculoskeletal injury

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Provide Care at the Basic Life Support Level

TASK NUMBER: B-10 Treat environmental medical emergencies

COMPETENCY: Utilize techniques and procedures needed to stabilize the patient with an environmental medical emergency.

COURSE NUMBERS: EMS 151 EMS 153 EMS 155

EVALUATIVE CRITERION: Treat the patient with an environmental medical emergency according to accepted protocol.

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Burns		
1. Types of injuries a. thermal b. chemical c. electrical d. radiation	Describe patient presentations for various types of burns.	Recognize the victim of a burn and the causative agent.
2. Severity of injury	Describe the classification system for burns.	Classify the extent of burn for various patient presentations.
3. Findings a. objective	Demonstrate techniques for obtaining pertinent information from the patient and others relative to a burn injury.	Obtain pertinent information relative to the chief complaint, past medical history, medications, and allergies from the victim of a burn injury.

TASK NUMBER: B-10 Treat environmental medical emergencies (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
b. subjective	Demonstrate techniques appropriate to the evaluation of a burn patient.	Evaluate accurately the patient with a burn.
4. Emergency care a. thermal burns b. chemical burns c. electrical burns d. radiation burns	Demonstrate basic life support procedures in the care of the burn patient.	Treat the patient with a burn according to accepted basic life support procedures.
5. Safety issues a. thermal burns b. chemical burns c. electrical burns d. radiation burns	Demonstrate personal safety techniques appropriate in the care of a burn patient.	Render emergency care to the burn patient while observing personal safety measures.
B. Hazardous Materials		
1. Types of materials a. chemicals b. radiation c. explosives	Describe patient presentations for exposure to various types of hazardous materials.	Recognize the victim of a hazardous materials exposure and the causative agent. Obtain accurate information relative to the substance to which the patient has been exposed.

TASK NUMBER: B-10 Treat environmental medical emergencies (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
2. Findings a. objective	Demonstrate techniques for obtaining information from the patient and others relative to a hazardous materials exposure.	Obtain pertinent information relative to the chief complaint, past medical history, medications, and allergies from the victim of a hazardous materials exposure.
b. subjective	Demonstrate techniques appropriate to the evaluation of a patient exposed to a hazardous material.	Evaluate accurately the patient of a hazardous materials exposure.
3. Emergency care a. chemical exposure b. radiation exposure c. explosion victim	Demonstrate basic life support procedures in the care of the patient.exposed to a hazardous material.	Treat the patient of a hazardous materials exposure.according to accepted basic life support procedures.
4. Safety issues a. chemical exposure b. radiation exposure c. explosions	Demonstrate personal safety techniques appropriate in the care of a patient exposed to a hazardous material.	Render emergency care to the patient hazardous material exposure while observing personal safety measures.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: B-10 Treat environmental medical emergencies (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
C. Heat Emergencies		
1. Types of injuries a. heat cramps b. heat exhaustion c. heat stroke	Describe patient presentations for various types of heat emergencies.	Recognize the victim of a heat injury and categorize accurately the severity of the emergency.
2. Findings a. objective	Demonstrate techniques for obtaining information from the patient and others relative to a heat emergency.	Obtain pertinent information relative to the chief complaint, past medical history, medications, and allergies from the victim of a heat injury.
b. subjective	Demonstrate techniques appropriate to the evaluation of a heat emergency patient.	Evaluate accurately the patient with a heat injury.
3. Emergency care a. heat cramps b. heat exhaustion c. heat stroke	Demonstrate basic life support procedures in the care of the patient with a heat emergency.	Treat the patient with a heat injury according to accepted basic life support procedures.

TASK NUMBER: B-10 Treat environmental medical emergencies (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
D. Emergencies Due to Cold		
1. Types of injuries a. frostbite b. hypothermia	Describe patient presentations for various types of emergencies due to cold.	Recognize the victim of an injury due to cold and categorize accurately the severity of the injury.
2. Findings		
a. objective	Demonstrate techniques for obtaining pertinent information from the patient and others relative to an emergency due to cold.	Obtain pertinent information relative to the chief complaint, past medical history, medications, and allergies from the victim of an injury due to cold.
b. subjective	Demonstrate techniques appropriate to the evaluation of a patient.with an emergency due to cold.	Evaluate accurately the patient with an injury due to cold.
3. Emergency care a. frostbite b. hypothermia	Demonstrate basic life support procedures in the care of the patient with an emergency due to cold.	Treat the patient with an injury due to cold according to accepted basic life support procedures.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: B-10 Treat environmental medical emergencies (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
E. Water Accidents		
1. Types of accidents a. drowning b. near drowning c. diving d. scuba e. boating f. ice	Describe the various types of accidents which occur on or in water.	Identify correctly the victim of a water accident.
2. Types of injuries a. cardiac arrest b. airway obstruction c. orthopedic d. hypothermia e. decompression sickness f. air embolism	Describe the various types of injuries which occur as the result of water accidents.	Identify the potential injuries which may occur following a water accident.
3. Water rescue a. personal safety b. reach, throw, row, go c. cervical precautions	Describe water rescue techniques that consider the safety of the rescuer	Remove a patient from the water environment while observing personal safety measures.

TASK NUMBER: B-10 Treat environmental medical emergencies (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
4. Findings a. objective	Demonstrate techniques for obtaining pertinent information from the patient and others relative to a water accident.	Obtain pertinent information as possible relative to the chief complaint, past medical history, medications, and allergies about the victim of a water accident.
b. subjective	Demonstrate techniques appropriate to the evaluation of a patient following a water accident.	Evaluate accurately the patient following a water accident.
5. Emergency care a. cardiac arrest b. airway obstruction c. head and neck injuries d. hypothermia e. decompression sickness f. air embolism	Demonstrate basic life support procedures in the care of the patient following a water accident.	Treat the patient with an injury due to a water accident according to accepted basic life support procedures.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Provide Care at the Basic Life Support Level

TASK NUMBER: B-11 Utilize basic life support equipment on Category I ambulances

COMPETENCY: Utilize basic life support equipment to stabilize the patient.

COURSE NUMBERS: EMS 152 EMS 153 EMS 171 EMS 172 EMS 273

EVALUATIVE CRITERION: Utilize basic life support equipment in the care of the emergency patient.

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Ambulance Defined		
1. §131E-155 General Statutesof North Carolina	Describe ambulance in legal terms.	Give the legal definition of ambulance as defined by NC statute.
2. T10:03D.0800 North Carolina Administrative Code a. Category I b. Category II c. Category III d. Category IV e. Category V	Describe the various categories of ambulances as provided for in the NC Administrative Code.	Define each of the categories of ambulance as prescribed in the NC Administrative Code.
B. Medical and Related Equipment		
1. Minimum requirements a. T10:03D.1000 NC Administrative Code	Locate the listing of the minimum requirements for medical and related equipment on ambulances.	State the regulatory authority for medical and related ambulance equipment requirements.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: B-11 Utilize basic life support equipment on Category I ambulances (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
		State the location in the NC Administrate Code for the listing of medical and related ambulance equipment requirements
2. Use of equipment	Demonstrate the use of the medical and related equipment required on Category I ambulances.	Employ the medical and related equipment required on Category I ambulances.
a. indications	Describe the indications for use of the medical and related equipment required on Category I ambulances.	State the indications for use for each piece of equipment required on Category I ambulances.
b. contraindications	Describe the contraindications to use of the equipment medical and related required on Category I ambulances.	State the contraindications to use of each piece of equipment required on Category I ambulances.
c. techniques of application	Describe the technique(s) of application for the medical and related equipment required on Category I ambulances.	Demonstrate the proper application of each piece of equipment required on Category I ambulances.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: B-11 Utilize basic life support equipment on Category I ambulances (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
d. assessment	Describe the assessment of the patient following the use of the medical and related equipment required on Category I ambulances.	Demonstrate the appropriate assessment of the patient following the use of each piece of equipment required on Category I ambulances.
e. reassessment	Describe the reassessment of the patient following the use of the medical and related equipment required on Category I ambulances.	Demonstrate the appropriate reassessment of the patient following the use of each piece of equipment required on Category I ambulances.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Provide Care at the Basic Life Support Level

TASK NUMBER: B-12 Provide psychological support

COMPETENCY: Utilize techniques to provide emotional support to the patient and others.

COURSE NUMBERS: EMS 151 EMS 53 EMS 155 EMS 157 EMS 255

EVALUATIVE CRITERION: Provide emotional support to those involved in medical or traumatic emergencies.

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Crisis 1. Defined	Describe crisis and those characteristics which define a crisis.	Define crisis accurately.
2. Characteristics		List the characteristics of a crisis.
3. Recognition a. common reactions	Describe the common reactions of individuals to crises.	Identify the common reaction of individuals to crisis.
b. six stages	Describe the stages of crisis.	List the six stages of crisis.
4. Respondants to crisis a. patient b. family c. bystanders	Describe those individuals most at risk to experience crisis.	Recognize the individul(s) at risk for crisis in a variety of emergency situations.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: B-12 Provide psychological support (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
B. Psychological Support		
1. Assessment of need	Describe how an emergency situation is assessed to determine the need for psychological support.	Assess the need for psychological support in a variety of emergency situations.
2. Crisis intervention	Practice the techniques of crisis intervention required during emotional crises associated with medical and trauma emergencies.	Utilize the techniques of crisis intervention to provide psychological support to patients, family, and bystanders during an emotional crisis in a variety of medical and trauma emergency situations.
3. Reassessment of situation	Describe the procedures for reassessment of the crisis situation following the implementation of crisis intervention.	Reassess the crisis situation following the implementation of crisis intervention.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Provide Care at the Basic Life Support Level

TASK NUMBER: B-13 Provide information to patient/family

COMPETENCY: Utilize techniques to provide information to patient and others.

COURSE NUMBERS: EMS 151 EMS 153 EMS 155 EMS 255

EVALUATIVE CRITERION: Provide information to the patient/family involved in a medical or traumatic emergency.

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Goals of Providing Information 1. Cooperation of patient and others 2. Reassurance of patient and others 3. Sense of control of situation by patient and others	Describe the goals of providing information to patients and others in the emergency situation.	Identify the goals of providing information to patients and others in the emergency situation.
B. Techniques of Communication 1. Verbal skills a. honesty b. proper level c. rapport	Practice verbal skills of communication which will provide information to patients and others in the emergency situation.	Employ verbal communication skills to provide information to patients and others in a variety of emergency situations.
2. Nonverbal skills a. eye contact b. "space"	Practice nonverbal skills of communication which will provide information to patients and others in the emergency situation.	Employ nonverbal communication skills to provide information to patients and others in a variety of emergency situations.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Provide Care at the Basic Life Support Level

TASK NUMBER: B-14 Intervene in crisis situations

COMPETENCY: Utilize techniques to intervene in crisis situations.

COURSE NUMBERS: EMS 151 EMS 155 EMS 156 EMS 255 PSY 160

EVALUATIVE CRITERION: Provide appropriate intervention in crisis situations.

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Crisis Situations 1. Patients in crisis a. sudden death b. suicide c. multi-casualty d. physical abuse e. violence f. substance abuse g. acute emotional disturbance	Identify potential crisis situations for patients.	Recognize the potential crisis. situation. Recognize the patient in crisis.
2. Care givers in crisis a. burnout b. multi-casualty incident c. job environment stress d. childhood death	Identify those situations which may be crisis situations for the emergency care giver.	Recognize potential crisis situations and the care giver in crisis.

TASK NUMBER: B-14 Intervene in crisis situations (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
B. Assessment of Crisis Situation 1. Imminent danger a. caregiver b. patient c. others	Describe techniques for assessing the danger to those involved in a crisis situation.	Assess the crisis situation for potential threats to the safety of the emergency care giver, patient, or others.
2. History of present situation	Describe techniques for obtaining information pertinent to the crisis situation.	Obtain information pertinent to the crisis situation.
C. Management 1. Intervention strategies a. verbal support b. active listening c. nonverbal support	Describe the techniques of crisis intervention for various patient and care giver crisis situations.	Employ appropriate intervention techniques for a patient or care giver in crisis.
2. Emergency medical care	Describe the medical needs of patients in various crisis situations.	Render emergency care to the crisis patient as needed.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Provide Care at the Basic Life Support Level

TASK NUMBER: B-15 Administer syrup of ipecac

COMPETENCY: Administer syrup of ipecac according to local protocol.

COURSE NUMBERS: EMS 151 EMS 154 EMS 155

EVALUATIVE CRITERION: Give syrup of ipecac acccording to patient care protocol.

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Indications 1. Ingested poison	Describe patient conditions appropriate to the use of syrup of ipecac.	Identify the indications for use of syrup of ipecac in the poisoned patient.
B. Contraindications 1. Coma 2. Seizures 3. Pregnancy 4. Acute myocardial infarction 5. Ingestion of corrosives, petroleum products, iodides, silver nitrates, strychnine	Describe patient conditions which prohibit the use of syrup of ipecac.	Identify without error the contraindications for use of syrup of ipecac in the poisoned patient.
C. Dose 1. Adult 2. Pediatric	Describe the dose of syrup of ipecac for an adult and a child. Demonstrate the preparation of a dose of syrup of ipecac for an adult and a child.	Prepare the correct dose of syrup of ipecac for an adult and a child.

TASK NUMBER: B-15 Administer syrup of ipecac (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
D. Administration 1. Within 3-6 hours 2. By mouth 3. With water 4. Before activated charcoal	Describe the steps in the administration of syrup of ipecac to an adult and a child.	Administer correctly the appropriate dose of syrup of ipecac to an adult and a child.
E. Complications 1. Airway 2. Failure to vomit	Describe the complications which may be encountered when administering syrup of ipecac. Describe how to handle the complications which may be encountered when administering syrup of ipecac.	Treat the patient for complications following the administration of syrup of ipecac.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Provide Care at the Advanced Life Support Level

TASK NUMBER: C-1 Insert an esophageal airway

COMPETENCY: Utilize an esophageal airway when confronted with a unconscious, patient over 16 years of age.

COURSE NUMBERS: EMS 153

EVALUATIVE CRITERION: Insert an esophageal airway in the unconscious, adult patient according to protocol.

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Esophageal Airways 1. Esophageal obturator (EOA) 2. Esophageal gastric tube (EGTA) 3. Pharyngeo-tracheal lumen (PtL)	Describe the various types of esophageal airways currently available for use with the unconscious, adult patient.	Identify correctly the various types of esophageal airways currently available for use with the unconscious, adult patient.
B. Indications for Use 1. Over 16 years of age 2. Unconscious 3. No gag reflex 4. Need to protect airway	Describe the indications for use of esophageal airways.	State correctly the indications for use of an esophageal airway.

TASK NUMBER: C-1 Insert an esophageal airway (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
C. Contraindications for Use 1. Gag reflex present 2. Under 16 years of age 3. Caustic substance ingestion 4. Known esophageal disease or trauma 5. Patient shorter than 5' or taller than 6'7"	Describe the contraindications to the use of esophageal airways.	List without error the contraindications for the use of an esophageal airway.
D. Advantages of Use 1. Ease of insertion 2. Prevention of gastric distension 3. Prevention of regurgitation 4. High oxygen concentration delivery possible 5. Eases endotracheal intubation	Describe the advantages of using an esophageal airway.	List the advantages of using an esophageal airway.
E. Hazards Associated with Use 1. Endotracheal placement (EOA and EGTA) 2. Pharyngeal trauma 3. Esophageal trauma	Describe the hazards associated with the use of the various types of esophageal airways.	List without error the hazards associated with the use of the various types of esophageal airways.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: C-1 Insert an esophageal airway (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
F. Technique for Insertion 1. Patient ventilation 2. Equipment assembly 3. Patient position 4. Insertion 5. Assessment of placement 6. Ventilation through esophageal airway	Practice the techniques of insertion for the various types of esophageal airways.	Demonstrate the proper technique for insertion of each of the various types of esophageal airways.
G. Reassessment of Patient Status 1. Level of consciousness 2. Bilateral breath sounds	Describe the method for reassessing the patient with an esophageal airway in place.	Reassess accurately the patient with an esophageal airway in place.
H. Removal of Esophageal Airway 1. Suction ready 2. Deflate cuff 3. Remove airway 4. Maintain patent airway	Practice the techniques for removal of the various types of esophageal airways.	Demonstrate the proper technique for removal of each of the various types of esophageal airways.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Provide Care at the Advanced Life Support Level

TASK NUMBER: C-2 Perform endotracheal intubation

COMPETENCY: Perform endotracheal intubation when confronted a patient in need of a secure airway.

COURSE NUMBERS: EMS 157 EMS 263 EMS 273

EVALUATIVE CRITERION: Perform endotracheal intubation according to protocol on the adult and pediatric patient in need of a secure airway.

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Indications 1. Respiratory or cardiac arrest 2. Unconscious 3. Decreased tidal volume 4. Airway obstruction	Describe the indications for use of endotracheal intubation.	State the indications for use of endotracheal intubation.
B. Contraindications 1. Epiglottitis 2. Untrained personnel	Describe the contraindications to the use of endotracheal intubation.	List without error the contraindications for use of endotracheal intubation.
C. Advantages 1. Secures airway 2. Prevents gastric distension 3. Prevents aspiration 3. High oxygen concentration delivery possible 4. Tracheal suctioning possible 5 Medication administration route	Describe the advantages of endotracheal intubation.	List the advantages of using endotracheal intubation.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: C-2 Perform endotracheal intubation (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
D. Hazards Associated with Use 1. Esophageal placement 2. Placement in right mainstem bronchus 3. Pharyngeal trauma 4. Tracheal trauma	Describe the hazards associated with the use of endotracheal intubation.	List without error the hazards associated with endotracheal intubation.
E. Technique for Insertion 1. Ventilate patient 2. Assemble equipment 3. Position patient 4. Insert tube 5. Assess placement 6. Secure tube 7. Ventilate through endotracheal tube	Practice the techniques of insertion of an endotracheal tube in the adult and pediatric patient.	Demonstrate the proper technique for insertion of an endotracheal tube in the adult and pediatric patient.
F. Reassessment of Patient Status 1. Bilateral breath sounds	Describe the method for reassessing the patient with an endotracheal tube in place.	Reassess accurately the patient following endotracheal intubation.
G. Removal of Esophageal Airway 1. Suction ready 2. Deflate cuff 3. Remove airway 4. Maintain patient airway	Practice the techniques for removal of an endotracheal tube.	Demonstrate the proper technique for removal of an endotracheal tube.

TASK NUMBER: C-2 Perform endotracheal intubation (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
H. Special Situations	Practice the techniques of intubation in special situations.	
1. Intubation with an esophageal airway		Intubate correctly the patient with an esophageal airway in place.
2. Intubation of the trauma patient		Intubate correctly the trauma patient using techniques which protect the cervical spine.
3. Nasotracheal intubation		Intubate correctly the patient using the technique of nasotracheal insertion of the endotracheal tube.
4. Digital intubation		Intubate correctly the patient using the technique of digital insertion of the endotracheal tube.
5. Transillumination intubation		Intubate correctly the patient using the technique of transillumination for insertion of the endotracheal tube.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Provide Care at the Advanced Life Support Level

TASK NUMBER: C-3 Perform cricothyroidotomy

COMPETENCY: Perform cricothyroidotomy when unable to secure an airway by other means.

COURSE NUMBERS: EMS 155

EVALUATIVE CRITERION: Perform a cricothyroidotomy according to protocol on a patient whose airway cannot be secured by other means.

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Indications 1. Upper airway obstruction 2. Failure to secure an airway a. abdominal thrusts b. manual ventilation c.direct laryngoscopy 3. Endotracheal intubation not feasible	Describe the indications for use of cricothyroidotomy.	Recognize accurately the indications for use of cricothyroidotomy in airway management.
B. Contraindications 1. Infants or children 2. Untrained care provider	Describe the contra-indications to the use of cricothyroidotomy.	List the contraindications for use of cricothyroidotomy.
C. Advantages 1. Secures airway below upper airway obstruction 2. Tracheal suctioning possible	Describe the advantages of cricothyroidotomy.	List the advantages of using cricothyroidotomy.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: C-3 Perform cricothyroidotomy (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
D. Hazards Associated with Use 1. Bleeding into airway 2. Subcutaneous and mediastinal emphysema	Describe the hazards associated with the use of cricothyroidotomy.	List without error the hazards associated with cricothyroidotomy.
E. Technique 1. Attempt other measures to secure airway 2. Assemble equipment 3. Position patient 4. Make incision 5. Insert tube 6. Assess placement 7. Secure tube 8. Ventilate through tube	Practice the technique of cricothyroidotomy in the adult patient.	Demonstrate the proper technique for accomplishing cricothyroidotomy in the adult patient.
F. Reassessment of Patient Status 1. Bilateral breath sounds	Describe the method for reassessing the patient whose airway is secured with by means of a cricothyroidotomy.	Reassess accurately the patient following cricothyroidotomy.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Provide Care at the Advanced Life Support Level

TASK NUMBER: C-4 Perform pleural decompression

COMPETENCY: Perform decompression of the chest cavity when confronted by the patient with a life-threatening pneumothorax.

COURSE NUMBERS: EMS 155 EMS 173

EVALUATIVE CRITERION: Perform pleural decompression according to protocol.

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Indications 1. Tension pneumothorax 2. Expanding simple pneumothorax	Describe the signs and symptoms which indicate the development of a potentially life-threatening pneumothorax.	Recognize correctly the indications for use of pleural decompression in airway management.
B. Contraindications 1. Patient with bilateral chest expansion 2. Untrained care giver	Describe the contra-indications to pleural decompression.	List contraindications to the use of pleural decompression.
C. Advantages 1. Relieves pneumothorax 2. Allows for adequate ventilation of patient	Describe the advantages of pleural decompression.	List the advantages of using pleural decompression.

TASK NUMBER: C-4 Perform pleural decompression (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
D. Hazards 1. Creation of pneumothorax	Describe the hazard associated with pleural decompression.	List without error the hazard associated with pleural decompression.
E. Technique 1. Ensure airway 2. Administer high concentration of oxygen 3. Decompress chest 4. Assess effects of decompression	Practice the technique of pleural decompression.	Demonstrate the proper technique for accomplishing pleural decompression.
F. Reassessment of Patient Status 1. Bilateral breath sounds 2. Bilateral chest expansion	Describe the method for reassessing the patient who has undergone pleural decompression.	Reassess accurately the patient following pleural decompression.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Provide Care at the Advanced Life Support Level

TASK NUMBER: C-5 Obtain electrocardiogram

COMPETENCY: Obtain an electrocardiogram from the patient requiring cardiac monitoring.

COURSE NUMBERS: EMS 157 EMS 162 EMS 172

EVALUATIVE CRITERION: Obtain an electrocardiogram which can be used to interpret a patient's cardiac rhythm.

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Indications 1. Routine monitoring 2. Need for dysrhythmia recognition 3. Cardiac arrest	Describe those instances when it is appropriate to obtain an electrocardiogram in the adult, child, and infant.	Identify accurately the patient in need of cardiac monitoring from a variety of patient presentations.
B. Advantages 1. Dysrhythmia recognition 2. Constant cardiac monitoring	Describe the advantages of obtaining an electrocardiogram.	List the advantages of obtaining an electrocardiogram.
C. Hazards 1. Failure to observe patient	Describe the hazards associated with obtaining an electrocardiogram.	Describe without error the hazard associated with obtaining an electrocardiogram.

TASK NUMBER: C-5 Obtain electrocardiogram (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
D. Technique 1. Bare chest 2. Reduce skin resistance 3. Apply electrodes or paddles 4. Assess rhythm	Practice the technique of obtaining an electrocardiogram.	Demonstrate the proper technique for obtaining an electrocardiogram.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Provide Care at the Advanced Life Support Level

TASK NUMBER: C-6 Interpret electrocardiogram

COMPETENCY: Interpret the electrocardiogram (EKG) of the patient receiving cardiac monitoring

COURSE NUMBERS: EMS 157 EMS 162 EMS 172

EVALUATIVE CRITERION: Identify correctly the cardiac rhythm of the patient being electrically monitored.

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Electrical Events of the Heart 1. atrial depolarization 2. ventricular depolarization 3. atrial repolarization 4. ventricular repolarization	Describe the electrical events of the heart which are represented in the electrocardiogram.	Identify correctly the electrical events of the heart which are represented in the electrocardiogram.
B. Components of the EKG 1. P wave 2. QRS complex 3. T wave 4. P-R interval 5. QRS duration 6. S-T segment	Describe the components of the electrocardiogram.	Recognize the components of the EKG and associate each correctly to the electrical events of the heart.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: C-6 Interpret electrocardiogram (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
C. Causes of Dysrhythmias 1. Cardiac 2. Nervous system 3. Blood gas abnormalities 4. Electrolyte imbalance 5. Trauma 6. Drug toxicity	Describe the patient presentations for each of the common causes of cardiac dysrhythmias.	Identify the patient at risk for cardiac dysrhythmias.
D. Interpretation of EKG 1. Systematic approach a. specific analysis format b. rules for each dysrhythmia c. comparison of analysis to rules	Describe approaches to the analysis of electrocardiograms which employ a consistent, systematic approach.	Employ a systematic method of EKG interpretation.
2. Classification of dysrhythmias a. originating in the SA node b. originating in the atria c. originating in the AV junction d. originating in the ventricles e. conduction disorders	Practice EKG interpretation.	Interpret a variety of EKGs using a systematic approach.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA:	Provide Care at the Advanced Life Support Level
TASK NUMBER:	C-7 Perform direct current (DC) countershock with automatic or semi-automatic defibrillator
COMPETENCY:	Perform direct current (DC) countershock using an automatic or semi-automatic defibrillator on the pulseless patient.
COURSE NUMBERS:	EMS 153 EMS 157
EVALUATIVE CRITERION:	Defibrillate the pulseless patient using an automated defibrillator according to protocol.

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Types of Defibrillators 1. Manual 2. Automatic 3. Semi-automatic	Describe the types of defibrillators available for use.	Recognize the types of defibrillators available for use with pulseless patients.
B. Indications 1. Unconscious 2. Pulseless 3. Apenic	Describe the indications for use of an automated defibrillator.	Identify correctly the candidate for automatic or semi-automatic defibrillation.
C. Contraindications 1. Absence of any indicator 2. In a moving ambulance	Describe the contraindications for use of an automated defibrillator.	Identify correctly the patient who is not a candidate for automatic or semi-automatic defibrillation.

TASK NUMBER: C-7 Perform direct current (DC) countershock with automatic or semi-automatic defibrillator (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
D. Technique of Operation		
1. Automatic defibrillator a. CPR in progress b. position adhesive pads on patient chest c. connect cables from defibrillator to pads d. clear personnel from contact with patient e. turn on defibrillator f. follow commands issued by defibrillator	Practice the technique of defibrillation utilizing an automatic defibrillator.	Defibrillate according to protocol an appropriate candidate for defibrillation using an automatic defibrillator.
2. Semi-automatic defibrillator a. CPR in progress b. position adhesive pads on patient chest c. connect cables from defibrillator to pads d. turn on defibrillator e. cause defibrillator to analyze rhythm f. clear personnel from contact with patient g. deliver shocks as prompted by defibrillator	Practice the technique of defibrillation utilizing an automatic defibrillator.	Defibrillate according to protocol an appropriate candidate for defibrillation using a semi-automatic defibrillator.

TASK NUMBER: C-7 Perform direct current (DC) countershock with automatic or semi-automatic defibrillator (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
E. Following Defibrillation		
1. Restoration of pulse a. ventilate as necessary b. transport	Describe patient care following successful defibrillation.	Care appropriately for the patient whose pulse has been restored by automated defibrillation.
2. Pulse absent a. continue CPR b. repeat defibrillation according to local protocol c. transport	Describe patient care following unsuccessful attempts at defibrillation.	Care appropriately for the patient whose pulse has not been restored by automated defibrillation.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Provide Care at the Advanced Life Support Level

TASK NUMBER: C-8 Perform direct current (DC) countershock with manual defibrillator

COMPETENCY: Perform the correct form of direct current countershock on the patient using a manual defibrillator.

COURSE NUMBERS: EMS 157

EVALUATIVE CRITERION: Perform direct current countershock with a manual defibrillator according to protocol.

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Types of DC Countershock 1. Defibrillation 2. Cardioversion	Describe the different types of DC countershock.	Differentiate between defibrillation and cardioversion.
A. Indications 1. Defibrillation a. ventricular fibrillation b. pulseless ventricular tachycardia c. asystole/fine ventricular fibrillation	Describe the patient who is a candidate for defibrillation.	Indicate without error adult and pediatric patients who are candidates for defibrillation from a variety of presentations.
2. Cardioversion a. symptomatic ventricular tachycardia b. symptomatic supraventricular tachycardia	Describe the patient who is a candidate for synchronized cardioversion.	Identify correctly adult and pediatric patients who are candidates for synchronized cardioversion from a variety of presentations.

TASK NUMBER: C-8 Perform direct current (DC) countershock with manual defibrillator (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
B. Contraindications 1. Defibrillation a. patient with a pulse	Describe the patient who is not a candidate for defibrillation.	Identify without error adult and pediatric patients who are not candidates for defibrillation from a variety of presentations.
2. Cardioversion a. asymptomatic ventricular tachycardia b. asymptomatic supraventricular tachycardia	Describe the patient who is not a candidate for synchronized cardioversion.	Identify correctly adult and pediatric patients who are not candidates for synchronized cardioversion from a variety of presentations.
C. Hazards 1. Shock to care givers. 2. Conversion to asystole	Describe the hazards associated with DC countershock.	Identify the hazards associated with DC countershock.
D. Technique 1. American Heart Association standards		
2. Precordial thump	Practice delivering a precordial thump in cardiac arrest situations.	Deliver a precordial thump to the monitored or witnessed cardiac arrest patient according to protocol

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: C-8 Perform direct current (DC) countershock with manual defibrillator (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
3. Defibrillation a. assess rhythm b. reduce skin resistance c. select energy level d. charge defibrillator e. clear the area f. defibrillate g. reassess rhythm h. check pulse	Practice the technique of defibrillation of the adult and pediatric patient as reflected in the standards of the American Heart Association.	Demonstrate the technique for defibrillation of the adult and pediatric patient.according to American Heart Association standards.
4. Cardioversion a. assess rhythm b. sedate patient c. reduce skin resistance d. select energy level e. turn on synchronizer f. clear the area g. cardiovert h. reassess rhythm i. check pulse	Practice the technique of cardioversion of the adult and pediatric patient.as reflected in the standards of the American Heart Association	Demonstrate the technique for cardioversion of the adult and pediatric patient according to American Heart Association standards.
E. Reassessment of Patient Status 1. Cardiac monitor 2. Check pulse 3. Repeat DC countershock	Describe the method for reassessing and continuing care of the patient following DC countershock.	Reassess the patient accurately following DC countershock when presented with a variety of patient outcomes.

TASK NUMBER: C-8 Perform direct current (DC) countershock with manual defibrillator (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
		Determine the need for further DC countershocks when presented with a variety of patient outcomes following DC countershock. Determine the need for additional treatment when presented with a variety of patient outcomes following DC countershock.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Provide Care at the Advanced Life Support Level

EVALUATIVE CRITERION: Externally pace the patient in need of pacing.

TASK NUMBER: C-9 Perform external cardiac pacing

COMPETENCY: Utilize the external cardiac pacer to correct cardiac dysrhythmias.

COURSE NUMBERS: EMS 157

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Indications for Pacing 1. Failure of drug therapy 2. Symptomatic bradycardia 3. Asystole 4. Overdrive pacing	Describe the patient who is a candidate for external cardiac pacing.	Identify patients who are candidates for external cardiac pacing from a variety of patient presentations.
B. Technique of External Pacing 1. Apply monitoring electrodes 2. Apply pacing electrodes 3. Connect pacing electrodes to pacer output 4. Set pacing rate above patient rate 5. Increase output current until capture is achieved 6. Increase output current another 10% 7. Monitor patient	Practice the technique of externally pacing the patient.	Demonstrate the technique for externally pacing the patient.adhering to manufacturer's directions for use of the external cardiac pacer.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: C-9 Perform external cardiac pacing (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
C. Complications of External Pacing	Describe the complications associated with external pacing.	Identify the complications associated with external pacing.
1. Patient discomfort	Describe means of diminishing patient discomfort during external pacing.	Sedate the candidate for cardiac pacing with the appropriate drug dose.
		Reposition pacing electrodes appropriately to reduce patient discomfort during pacing.
2. Stray electrical conduction	Describe means of reducing possible electrical conduction to individuals other than the patient during pacing.	Handle pacing electrodes properly.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Provide Care at the Advanced Life Support Level

TASK NUMBER: C-10 Establish peripheral venous access

COMPETENCY: Establish a peripheral venous access in the adult and pediatric patient.

COURSE NUMBERS: EMS 153 EMS 161 EMS 171

EVALUATIVE CRITERION: Obtain peripheral venous access in an adult and pediatric patient.

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Indications 1. Drug administration 2. Fluid replacement 3. Secure blood sample	Describe the indications for establishing peripheral venous access.	Identify the patient in need of peripheral venous access.
B. Complications 1. Infection 2. Pyrogenic reaction 3. Infiltration 4. Thrombophlebitis 5. Pulmonary edema 6. Air embolism 7. Pain 8. Hematoma 9. Arterial cannulation 10. Catheter shear	Describe patient presentations for those complications which can result from the establishment of a peripheral venous access.	Recognize the patient who has developed a complication from the establishment of a peripheral venous access.

TASK NUMBER: C-10 Establish peripheral venous access (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
C. Advantages 1. Direct access lifeline 2. Medication administration route	Describe the advantages of establishing peripheral venous access.	List the advantages of using peripheral veins for establishing venous access.
D. Cannulas 1. Hollow needle 2. Over the needle 3. Through the needle 4 Heparin lock	Describe the various types of intravenous cannulas and their uses.	Identify venous cannulas by type and use.
E Access Sites 1. Adult a. hand b. forearm c. anticubital fossa d. external jugular e. foot and leg	Locate the various veins which can be used for venous access in the adult patient.	Locate an appropriate peripheral vein for the establishment of venous access in the adult patient.
2. Pediatric patient a. hand b. forearm c. anticubital fossa d. external jugular e. scalp f. foot and leg	Locate the various veins which can be used for venous access in the pediatric patient.	Locate an appropriate peripheral vein for the establishment of venous access in the pediatric patient.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: C-10 Establish peripheral venous access (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
F. Technique 1. Select site 2 Prepare site 3. Insert needle and/or cannula 4. Infuse appropriate solution 5. Check site 6. Secure cannula 7. Secure tubing when necessary 8. Check flow rate as necessary	Practice the technique of establishing peripheral venous access.	Establish a peripheral venous access according to protocol in the adult and pediatric patient.
G. Reassessment 1. Flow rate 2. Venipuncture site 3. Secured 4. Patient status	Describe the method for reassessing an established peripheral venous access.	Reassess the patient accurately following the establishment of a peripheral venous access.
H. Discontinuance of Intravenous Therapy 1. Discontinue fluid flow 2. Remove cannula 3. Apply pressure to site 4. Apply antiseptic 5. Apply dressing and bandage	Practice the technique for discontinuing intravenous therapy.	Demonstrate the proper technique for discontinuation and removal of a peripheral venous assess.

TASK NUMBER: C-10 Establish peripheral venous access (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
I. Special Situations 1. Shock a. use of MAST	Describe the benefits of MAST in a shock state when venous access is required.	Employ MAST trousers appropriately in the establishment of venous access in a patient in shock.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Provide Care at the Advanced Life Support Level

TASK NUMBER: C-11 Obtain venous blood sample

COMPETENCY: Perform the techniques of peripheral venipuncture to obtain a blood sample.

COURSE NUMBERS: EMS 153 EMS 161 EMS 171

EVALUATIVE CRITERION: Perform venipuncture according to protocol to a sample of blood from the patient.

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Indications 1. Precare status a. glucose level b. drug levels c. hematocrit	Describe the indications for obtaining a blood sample.	Identify the patient from whom it is appropriate to obtain a blood sample.
B. Access Sites 1. Adult a. hand b. forearm c. anticubital fossa d. external jugular e. foot and leg	Locate the various veins which can be used for obtaining a blood sample in the adult patient.	Locate an appropriate peripheral vein for the purpose of obtaining a blood sample in the adult patient.
2. Pediatric patient a. hand b. forearm c. anticubital fossa d. scalp e. foot and leg	Locate the various veins which can be used for obtaining a blood sample in the pediatric patient.	Locate an appropriate peripheral vein for the purpose of obtaining a blood sample in the pediatric patient.

TASK NUMBER: C-11 Obtain venous blood sample (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
C. Technique I 1. Select site 2. Prepare site 3. Insert needle and/or cannula 4. Attach syringe 5. Withdraw blood sample 6. Infuse appropriate IV solution 7. Check site 6. Secure cannula 7. Secure tubing as necessary 8. Check flow rate as necessary 9. Transfer blood sample to vacuum tube/s	Practice the technique of establishing peripheral venous access which can be used for obtaining a blood sample.	Establish a peripheral venous access according to protocol in the adult and pediatric patient which can be used for for the purpose of obtaining a blood sample.
D. Technique II 1. Select site 2. Prepare site 3. Insert needle and vacuum tube container 4. Attach vacuum tube 5. Secure blood sample 6. Withdraw needle 7. Apply pressure 8. Apply dressing and bandage	Practice the technique of venous blood sampling.	Obtain a venous blood sample according to standard procedure.

TASK NUMBER: C-11 Obtain venous blood sample (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
E. Complications 1. infection 2. pyrogenic reaction 3. thrombophlebitis 4. air embolism 5. pain 6. hematoma 7. arterial cannulation 8. catheter shear	Describe patient presentations for those complications which can result from the establishment of a peripheral venous access.	Recognize the patient who has developed a complication from the establishment of a peripheral venous access.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Provide Care at the Advanced Life Support Level

EVALUATIVE CRITERION: Establish an interosseous iinfusion according to protocol.

TASK NUMBER: C-12 Perform interosseous infusion

COMPETENCY: Establish an interosseous infusion line in the pediatric patient.

COURSE NUMBERS: EMS 257

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Indications 1. Age a. up to 60 months	Describe the indications for use of an interossoeus infusion to administer fluids and medications to a pediatric patient.	Identify the candidate for interosseous infusion by age.
2. Venous access necessary a. peripheral IV attempts unsuccessful b large fluid volume c. medication route needed		Identify the candidate for interosseous infusion by need for venous access.
3. Patient condition a. shock b. cardiac arrest c. coma		Identify the candidate for interosseous infusion by medical condition.
B. Contraindications 1. Older pediatric patient 2. Peripheral venous access available	Describe the contradictions for use of an interosseous infusion.	Identify the patient who is not a candidate for an interosseous infusion.

TASK NUMBER: C-12 Perform interosseous infusion (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
C. Hazards 1. Fluid overload 2. Infection	Describe the hazards associated with the establishment of an interosseous infusion.	Identify the hazards associated with the establishment of an interosseous infusion in the pediatric patient.
D. Technique 1. Prepare site 2. Insert spinal needle 3. Ensure placement in marrow cavity 4. Test infusion 5. Secure needle and tubing	Practice establishing an interosseous infusion.	Establish an interosseous infusion according to protocol in the appropriate pediatic patient.
E. Reassessment 1. Drip rate 2. Patient condition	Describe the steps in the reassessment of the patient with an interosseous infusion.	Reassess the patient with an interossoeus infusion line in place.

SUBJECT AREA: Provide Care at the Advanced Life Support Level

TASK NUMBER: C-13 Administer medications on the EMT-intermediate formulary

COMPETENCY: Administer approved medications to patients according to drug treatment protocols.

COURSE NUMBERS: EMS 153

EVALUATIVE CRITERION: Administer the correct medication to the patient in the correct amount ane via the proper route.

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Mandatory EMT-Intermediate (EMT-I) Formulary		
1. Intravenous solutions a. D5W b. lactated Ringers c. normal saline	Describe intravenous solutions which the EMT-I may administer according to the EMT-I formulary.	Identify the intravenous solutions on the EMT-I formulary.
2. Parenteral Pharmaceuticals a. subcutaneous epinephrine b. 50% dextrose	Describe parenteral pharmaceuticals which the EMT-I may administer according to the EMT-I formulary.	Identify the parenteral pharmaceuticals on the EMT-I formulary.
3. Oral Pharmaceuticals a. syrup of ipecac	Describe oral pharmaceuticals which the EMT-I may administer according to the EMT-I formulary.	Identify the oral pharmaceuticals on the EMT-I formulary.

TASK NUMBER: C-13 Administer medications on the EMT-intermediate formulary (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
B. Drug Information		
1. Therapeutic effects	Describe the therapeutic effects of each drug on the EMT-I formulary.	Select the appropriate drug from the EMT-I formulary for a given patient presentation based on the therapeutic effects of the drug.
2. Indications	Describe the indications for use of each drug on the EMT-I formulary.	Select the appropriate drug from the EMT-I formulary for a given patient presentation based on the indications for use of the drug.
3. Contraindications	Describe the contraindications for use of each drug on the EMT-I formulary.	Recognize a drug from the EMT-I formulary as inappropriate for a particular patient presentation based on the contraindications for use of the drug.
4. Side effects	Describe the side effects of each drug on the EMT-I formulary.	Identify the potential side effects of each drug on the EMT-I formulary used in a particular patient presentation.

TASK NUMBER: C-13 Administer medications on the EMT-intermediate formulary (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
5. How supplied	Describe how each drug on the EMT-I formulary is supplied.	Identify the form/s in which each drug on the EMT-I formulary is supplied.
6. Adult dose/s	Describe the adult dose/s of each drug on the EMT-I formulary.	Calculate the correct adult dose for each drug on the EMT-I formulary for a given patient presentation.
7. Pediatric dose/s	Describe the pediatric dose/s of each drug on the EMT-I formulary.	Calculate the correct pediatric dose for each drug on the EMT-I formulary for a given patient presentation.
8. Route/s of administration	Describe the route/s of administration of each drug on the EMT-I formulary.	Administer each drug on the EMT-I formulary via the appropriate route for a given patient presentation.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Provide Care at the Advanced Life Support Level

TASK NUMBER: C-14 Administer medications on the EMT-advanced intermediate formulary

COMPETENCY: Administer approved medications to patients according to drug treatment protocols.

COURSE NUMBERS: EMS 154 EMS 155 EMS 157 EMS 254 EMS 255 EMS 257

EVALUATIVE CRITERION: Administer the correct medication to the patient in the correct amount and via the proper route.

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Mandatory EMT-Advanced Intermediate (EMT-AI) Formulary		
1. Intravenous solutions a. D5W b. lactated Ringers c. normal saline	Describe intravenous solutions which the EMT-AI may administer according to the EMT-AI mandatory formulary.	Identify the intravenous solutions on the EMT-AI mandatory formulary.
2. Parenteral Pharmaceuticals a. atropine b. dextrose c. epinephrine d. lidocaine e. naloxone	Describe parenteral pharmaceuticals which the EMT-AI may administer according to the EMT-AI mandatory formulary.	Identify the parenteral pharmaceuticals on the EMT-AI mandatory formulary.

TASK NUMBER: C-14 Administer medications on the EMT-advanced intermediate formulary (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
3. Oral Pharmaceuticals a. nitroglycerin b. syrup of ipecac	Describe oral pharmaceuticals which the EMT-AI may administer according to the EMT-AI mandatory formulary.	Identify the oral pharmaceuticals on the EMT-AI mandatory formulary.
B. Drug Information		
1. Therapeutic effects	Describe the therapeutic effects of each drug on the EMT-AI mandatory formulary.	Select the appropriate drug from the EMT-AI mandatory formulary for a given patient presentation based on the therapeutic effects of the drug.
2. Indications	Describe the indications for use of each drug on the EMT-AI mandatory formulary.	Select the appropriate drug from the EMT-AI mandatory formulary for a given patient presentation based on the indications for use of the drug.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: C-14 Administer medications on the EMT-advanced intermediate formulary (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
3. Contraindications	Describe the contraindications for use of each drug on the EMT-AI mandatory formulary.	Recognize a drug from the EMT-AI mandatory formulary as inappropriate for a particular patient presentation based on the contraindications for use of the drug.
4. Side effects	Describe the side effects of each drug on the EMT-AI mandatory formulary.	Identify the potential side effects of each drug on the EMT-AI mandatory formulary used in a particular patient presentation.
5. How supplied	Describe how each drug on the EMT-AI mandatory formulary is supplied.	Identify the form/s in which each drug on the EMT-AI mandatory formulary is supplied.
6. Adult dose/s	Describe the adult dose/s of each drug on the EMT-AI mandatory formulary.	Calculate the correct adult dose for each drug on the EMT-AI mandatory formulary for a given patient presentation.

TASK NUMBER: C-14 Administer medications on the EMT-advanced intermediate formulary (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
7. Pediatric dose/s	Describe the pediatric dose/s of each drug on the EMT-AI mandatory formulary.	Calculate the correct pediatric dose for each drug on the EMT-AI mandatory formulary for a given patient presentation.
8. Route/s of administration	Describe the route/s of administration of each drug on the EMT-AI mandatory formulary.	Administer each drug on the EMT-AI mandatory formulary via the appropriate route for a given patient presentation.
C. Optional EMT-AI Drug Formulary 1. sodium bicarbonate 2. intravenous solutions 3. interhospital transfer drugs	Describe drugs on the EMT-AI optional formulary which the EMT-AI may administer when authorized by local protocol.	Identify drugs approved for use by local protocol by the EMT-AI from the EMT-AI optional formulary.
D. Drug Information		
1. Therapeutic effects	Describe the therapeutic effects of each drug on the EMT-AI optional formulary.	Select the appropriate drug from the EMT-AI optional formulary for a given patient presentation based on the therapeutic effects of the drug.

TASK NUMBER: C-14 Administer medications on the EMT-advanced intermediate formulary (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
2. Indications	Describe the indications for use of each drug on the EMT-AI optional formulary.	Select the appropriate drug from the EMT-AI optional formulary for a given patient presentation based on the indications for use of the drug.
3. Contraindications	Describe the contraindications for use of each drug on the EMT-AI optional formulary.	Recognize a drug from the EMT-AI optional formulary as inappropriate for a particular patient presentation based on the contraindications for use of the drug.
4. Side effects	Describe the side effects of each drug on the EMT-AI optional formulary.	Identify the potential side effects each drug on the EMT-AI optional formulary used in a particular patient presentation.
5. How supplied	Describe how each drug on the EMT-AI optional formulary is supplied.	Identify the form/s in which each drug on the EMT-AI optional formulary is supplied.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: C-14 Administer medications on the EMT-advanced intermediate formulary (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
6. Adult dose/s	Describe the adult dose/s of each drug on the EMT-AI optional formulary.	Calculate the correct adult dose for each drug on the EMT-AI optional formulary for a given patient presentation.
7. Pediatric dose/s	Describe the pediatric dose/s of each drug on the EMT-AI optional formulary.	Calculate the correct pediatric dose for each drug on the EMT-AI optional formulary for a given patient presentation.
8. Route/s of administration	Describe the route/s of administration of each drug on the EMT-AI optional formulary.	Administer each drug on the EMT-AI optional formulary via the appropriate route for a given patient presentation.as provided by local protocol.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Provide Care at the Advanced Life Support Level

TASK NUMBER: C-15 Administer medications on the EMT-paramedic formulary

COMPETENCY: Administer approved medications to patients according to drug treatment protocols.

COURSE NUMBERS: EMS 154 EMS 155 EMS 157 EMS 254 EMS 255 EMS 257

EVALUATIVE CRITERION: Administer the correct medication to the patient in the correct amount and via the proper route.

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Mandatory EMT-Paramedic (EMT-P) Formulary		
1. Intravenous solutions a. D5W b. lactated Ringers c. normal saline	Describe intravenous solutions which the EMT-P may administer according to the EMT-P mandatory formulary.	Identify the intravenous solutions on the EMT-P mandatory formulary.
2. Parenteral Pharmaceuticals a. atropine b. dextrose c. epinephrine d. lidocaine e. naloxone	Describe parenteral pharmaceuticals which the EMT-P may administer according to the EMT-P mandatory formulary.	Identify the parenteral pharmaceuticals on the EMT-P mandatory formulary.
3. Oral Pharmaceuticals a. nitroglycerin b. syrup of ipecac	Describe oral pharmaceuticals which the EMT-P may administer according to the EMT-P mandatory formulary.	Identify the oral pharmaceuticals on the EMT-P mandatory formulary.

TASK NUMBER: C-15 Administer medications on the EMT-paramedic formulary (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
B. Drug Information		
1. Therapeutic effects	Describe the therapeutic effects of each drug on the EMT-P mandatory formulary.	Select the appropriate drug from the EMT-P mandatory formulary for a given patient presentation based on the therapeutic effects of the drug.
2. Indications	Describe the indications for use of each drug on the EMT-P mandatory formulary.	Select the appropriate drug from the EMT-P mandatory formulary for a given patient presentation based on the indications for use of the drug.
3. Contraindications	Describe the contraindications for use of each drug on the EMT-P mandatory formulary.	Recognize a drug from the EMT-P mandatory formulary as inappropriate for a particular patient presentation based on the contraindications for use of the drug.
4. Side effects	Describe the side effects of each drug on the EMT-P mandatory formulary.	Identify the potential side effects of each drug on the EMT-P mandatory formulary used in a particular patient presentation.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: C-15 Administer medications on the EMT-paramedic formulary (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
5. How supplied	Describe how each drug on the EMT-P mandatory formulary is supplied.	Identify the form/s in which each drug on the EMT-P mandatory formulary is supplied.
6. Adult dose/s	Describe the adult dose/s of each drug on the EMT-P mandatory formulary.	Calculate the correct adult dose for each drug on the EMT-P mandatory formulary for a given patient presentation.
7. Pediatric dose/s	Describe the pediatric dose/s of each drug on the EMT-P mandatory formulary.	Calculate the correct pediatric dose for each drug on the EMT-P mandatory formulary for a given patient presentation.
8. Route/s of administration	Describe the route/s of administration of each drug on the EMT-P mandatory formulary.	Administer each drug on the EMT-P mandatory formulary via the appropriate route for a given patient presentation.

TASK NUMBER: C-15 Administer medications on the EMI-paramedic formulary (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
C. Optional EMT-P Drug Formulary 1. ACLS drugs 2. anaesthetics 3. cardio-respiratory agents 4. intravenous solutions 5. analgesics 6. interhospital transfer drugs 7. miscellaneous drugs	Describe drugs on the EMT-P optional formulary which the EMT-P may administer when authorized by local protocol.	Identify drugs approved for use by local protocol by the EMT-P from the EMT-P optional formulary.
D. Drug Information		
1. Therapeutic effects	Describe the therapeutic effects of each drug on the EMT-P optional formulary.	Select the appropriate drug from the EMT-P optional formulary for a given patient presentation based on the therapeutic effects of the drug.
2. Indications	Describe the indications for use of each drug on the EMT-P optional formulary.	Select the appropriate drug from the EMT-P optional formulary for a given patient presentation based on the indications for use of the drug.

TASK NUMBER: C-15 Administer medications on the EMT-paramedic formulary (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
3. Contraindications	Describe the contraindications for use of each drug on the EMT-P optional formulary.	Recognize a drug from the EMT-P optional formulary as inappropriate for a particular patient presentation based on the contraindications for use of the drug.
4. Side effects	Describe the side effects of each drug on the EMT-P optional formulary.	Identify the potential side effects each drug on the EMT-P optional formulary used in a particular patient presentation.
5. How supplied	Describe how each drug on the EMT-P optional formulary is supplied.	Identify the form/s in which each drug on the EMT-P optional formulary is supplied.
6. Adult dose/s	Describe the adult dose/s of each drug on the EMT-P optional formulary.	Calculate the correct adult dose for each drug on the EMT-P optional formulary for a given patient presentation.
7. Pediatric dose/s	Describe the pediatric dose/s of each drug on the EMT-P optional formulary.	Calculate the correct pediatric dose for each drug on the EMT-P optional formulary for a given patient presentation.

TASK NUMBER: C-15 Administer medications on the EMT-paramedic formulary (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
8. Route/s of administration	Describe the route/s of administration of each drug on the EMT-P optional formulary.	Administer each drug on the EMT-P optional formulary via the appropriate route for a given patient presentation.as provided by local protocol.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Provide Care at the Advanced Life Support Level

TASK NUMBER: C-16 Perform gastric lavage

COMPETENCY: Utilize techniques to wash out stomach contents in acute situations.

COURSE NUMBERS: EMS 155 EMS 162 EMS 263

EVALUATIVE CRITERION: Insert a nasogastric tube and wash out the contents of a patient's stomach according to protocol.

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Indications for Use 1. Poisoning 2. Drug overdose 3. Gastrointestinal hemorrhage	Describe the indications for the use of gastric lavage in the acute setting.	Recognize the patient in need of gastric lavage from a variety of patient presentations.
B. Types of Tubes 1. single lumen - Levin 2. double lumen - sump	Describe the types of tubes available for gastric lavage.	Identify the types of tubes available for gastric lavage.
C. Technique of Insertion 1. Measure appropriate length 2. Position patient 3. Insert tube slowly 4. Have patient swallow repeatedly during insertion 5. Ensure position in stomach 6. Secure tube 7. Connect tube to suction	Practice the technique of nasogastric intubation on mannikins.	Insert a nasogastric tube according to accepted protocol.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: C-16 Perform gastric lavage (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
Complications 1. Nasal bleeding 2. Retropharyngeal perforation 3. Tracheal intubation 4. Fluid and electrolyte imbalance 5. Cranial insertion in head trauma patient	Describe possible complications which can result from gastric lavage.	Identify complications resulting from performance of the procedure of gastric lavage.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Provide Care at the Advanced Life Support Level

TASK NUMBER: C-17 Utilize advanced life support equipment on EMT-intermediate performance list

COMPETENCY: Utilize EMT-intermediate (EMT-I) advanced life support equipment to stabilize and improve patient condition.

COURSE NUMBERS: EMS 153

EVALUATIVE CRITERION: Utilize EMT-I advanced life support equipment according to protocol in the care of the emergency patient.

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Performance Listing		
1. North Carolina Administrative Code T21: 32H .0403	Describe the regulations authorizing EMT- intermediate performance.	Cite the regulatory authorization for EMT-intermediate performance.
2. Equipment by Specific Task a. venous access b. intravenous solution administration c. blood sampling d. EMT-I medication administration e. automated defibrillation f. esophageal obturatation	Review the procedures and protocols for specific performance functions of the EMT-intermediate.	Demonstrate proficiency in the use of advanced life support equipment approved for use by the EMT-intermediate.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: C-17 Utilize advanced life support equipment on EMT-intermediate performance list (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
3. Additional EMT-I equipment		
a. MED channel communication	Practice radio communication techniques employing the MED channels.	Communicate effectively with the hospital using the MED channels.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Provide Care at the Advanced Life Support Level

TASK NUMBER: C-18 Utilize advanced life support equipment on EMT-Advanced Intermediate performance list.

COMPETENCY: Utilize EMT-Advanced intermediate (EMT-AI) advanced life support equipment to stabilize and/or improve patient condition.

EVALUATIVE CRITERION: Utilize EMT-AI advanced life support equipment according to protocol in the care of the emergency patient.

COURSE NUMBERS: EMS 154 EMS 155 EMS 157 EMS 172 EMS 255

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Performance Listing		
1. North Carolina Administrative Code T21: 32H .0406	Describe the regulations authorizing EMT-advanced intermediate performance.	Cite the regulatory authorization for EMT-advanced intermediate performance.
2. Equipment by Specific Task a. venous access b. intravenous solution administration c. blood sampling d. EMT-AI medication administration e. defibrillation f. external cardiac pacing g. esophageal obturatation h. endotracheal intubation	Review the procedures and protocols for specific performance functions of the EMT-advanced intermediate.	Demonstrate proficiency in the use of advanced life support equipment approved for use by the EMT-advanced intermediate.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: C-18 Utilize advanced life support equipment on EMT-advanced intermediate (continued) performance list

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
3. Additional EMT-AI equipment		
a. MED channel communication	Practice radio communication techniques employing the MED channels.	Communicate effectively with the hospital using the MED channels.
b. biotelemetry	Practice the transmission of data via biotelemetry frequencies.	Send data to the hospital via biotelemetry frequencies.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Provide Care at the Advanced Life Support Level

TASK NUMBER: C-19 Utilize advanced life support equipment on EMT-paramedic performance list.

COMPETENCY: Utilize advanced life support equipment to stabilize and improve patient condition.

COURSE NUMBERS:

EVALUATIVE CRITERION: Utilize advanced life support equipment according to protocol in the care of the emergency patient.

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Performance Listing		
1. North Carolina Administrative Code T21: 32H .0402	Describe the regulations authorizing EMT-paramedic performance.	Cite the regulatory authorization for EMT-paramedic performance.
2. Equipment by Specific Task a. venous access b. intravenous solution administration c. blood sampling d. medication administration e. defibrillation f. cardioversion g. pleural decompression h. cricothyroidotomy i. espohageal obturation j. endotracheal intubation	Review the procedures and protocols for specific performance functions of the EMT-paramedic.	Demonstrate proficiency in the use of advanced life support equipment approved for use by the EMT-paramedic.

TASK NUMBER: C-19 Utilize advanced life support equipment on EMT-Paramedic performance list. (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
k. gastric lavage l. urinary catheterization m. external cardiac pacing		
3. Additional EMT-paramedic performance equipment a. gas-powered nebulizer b. hand-powered nebulizer c. positive end expiratory pressure respirator d. MED channel radios e. biotelemetry	Describe additional advanced life support equipment authorized for use by the EMT-paramedic.	List additional equipment available to the EMT-paramedic for performance of advanced life support.
B. Use of Additional Equipment		
1. Indications	Describe the indications for use of the additional equipment on the EMT-paramedic performance list.	State the indications for use for each additional piece of equipment on the EMT-paramedic performance list.
2. Contraindications	Describe the contraindications to use of the additional equipment on the EMT-paramedic performance list.	State the contraindications to use of each additional piece of equipment on the EMT-paramedic performance list.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: C-19 Utilize advanced life support equipment on EMT-Paramedic performance list. (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
3. Techniques of operation	Describe the technique(s) of operation of the additional equipment on the EMT-paramedic performance list.	Demonstrate the proper application of each additional piece of equipment on the EMT-paramedic performance list.
4. Assessment	Describe the assessment of the patient following the use of the additional equipment on the EMT-paramedic performance list.	Demonstrate the appropriate assessment of the patient following the use of each additional piece of equipment on the EMT-paramedic performance list.
5. Reassessment	Describe the reassessment of the patient following the additional equipment on the EMT-paramedic performance list.	Demonstrate the appropriate reassessment of the patient following the use of each additional piece of equipment on the EMT-paramedic performance list.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA:	Provide Care at the Advanced Life Support Level	EVALUATIVE CRITERION:	Perform urinary catheterization using aseptic technique and adhering to protocol.
TASK NUMBER:	C-20 Perform urinary catheterization		
COMPETENCY:	Utilize techniques and procedures to obtain sterile access to the urinary system.		
COURSE NUMBERS:	EMS 155		

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Indications in Acute Setting 1. Measurement of urinary output 2. Prevent incontinence following medication	Describe the indications for the use of urinary catheterization in the acute setting.	Recognize the patient in need of urinary catheterization from a variety of patient presentations.
B. Hazards 1. Infection 2. Urinary tract trauma 3. Bladder spasm	Describe hazards associated with urinary catheterization.	Recognize hazards associated with urinary catheterization.
C. Types of Catheters 1. Materials a. plastic b. latex rubber c. silicone	Describe the types of catheters available for urinary catheterization.	Identify the types of and uses for the various kinds of urinary catheters.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: C-20 Perform urinary catheterization (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
2. Sizes guidelines a. female - 14-16 French b. male 18-20 French c. child 8-10 French		
3. Lumens a. single b. double c. triple		
D. Technique of Catheterization 1. Position patient 2. Set up drainage system 3. Set up sterile catheterization tray 4. Don sterile gloves 5. Drape patient 6. Lubricate catheter tip 7. Attach prefilled syringe to balloon lumen 8. Cleanse perineal area 9. Insert indwelling catheter 10. Inflate balloon 11. Ensure retention 12. Attach drainage system 13. Secure tubing	Practice the technique of urinary catheterization on female and male mannikins.	Catheterize an adult male and female employing aseptic technique.and adhering to standard procedure protocol.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: C-20 Perform urinary catheterization (continued)

INSTRUCTIONAL ACTIVITIES	LEARNER ACTIVITIES	OUTCOME COMPETENCY
E. Reassessment 1. Monitor urine flow 2. Insure security of placement	Describe the reassessment and monitoring procedures used following urinary catheterization.	Monitor the patient appropriately following urinary catheterization.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Follow Infection Control Procedure

TASK NUMBER: D-1 Utilize protective equipment

COMPETENCY: Utilize the protective equipment recommended by the Centers for Disease Control (CDC) "Universal Precautions".

EVALUATIVE CRITERION: Employ appropriate protective equipment in the observance of universal precautions.

COURSE NUMBERS: EMS 152 EMS 153 EMS 161 EMS 171 EMS 162 EMS 172 EMS 263 EMS 273

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. When to Use Equipment		
1. Center for Disease Control guidelines for health care workers a. MMWR 37 (24), 1988 b. MMRW 38 (38), 1989	Become familiar with the guidelines provided by the CDC for the utilization of protective equipment by health care workers.	Identify a source of guidelines for the utilization of protective equipment by health care workers.
2. NAEMT Report on Infection and Infection Control, 3-90 a. all patient contacts b. cleaning/disinfecting		Provide the rationale for emergency personnel to employ universal precautions during all patient contacts.and disinfectant procedures.

TASK NUMBER: D-1 Utilize protective equipment (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
B. What Equipment to Use		
1. For blood and body fluid precautions a. disposable gloves b. protective eye wear c. disposable face mask	Practice patient care while utilizing protective equipment to prevent contact with blood and body fluids.	Employ appropriate protective equipment when presented with an emergency situation where blood or body fluid contact is possible.
2. For resuscitation a. bag-valve-mask b. pocket mask and valve	Practice resuscitative measures while utilizing protective equipment to prevent contact with blood and body fluids.	Employ appropriate resuscitative equipment when presented with an emergency situation where blood or body fluid contact is possible.
3. For special situations a. disposable gowns	Practice patient care while utilizing protective equipment to prevent contact with blood and body fluids in case of extreme contamination.	Employ appropriate protective equipment when presented with an emergency situation where significant blood or body fluid contact is possible.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Follow Infection Control Procedures

TASK NUMBER: D-2 Practice aseptic techniques

COMPETENCY: Utilize techniques which prevent the introduction or spread of infection.

EVALUATIVE CRITERION: Practice aseptic technique when caring for a patient.

COURSE NUMBERS: EMS 151 EMS 153 EMS 155 EMS 157 EMS 255 EMS 161 EMS 163 EMS 263

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Hand Washing 1. Before patient contact 2. Between patient contacts	Practice the techniques of hand washing for various patient contact situations.	Wash hands properly before and between all patient contacts.
B. Use of Antiseptics 1. Iodine preparations 2. Alcohol preparations	Demonstrate the the use of antiseptics to prevent infection in the emergency setting.	Use antiseptics appropriately when while performing emergency care procedures.
C. Use of Sterile Equipment 1. Endotracheal tube 2. Urinary catheter 3. Intravenous catheter 4. Suction catheter 5. Dressings 6. Gloves 7. Drugs 8. Fluids 9. Needles and syringes	Demonstrate the use of sterile equipment in the emergency setting.	Employ sterile equipment appropriately in the setting of an emergency.

TASK NUMBER: D-2 Practice aseptic techniques (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
D. Use of Disposable Equipment 1. Respiratory equipment 2. Intravenous equipment 3. Protective equipment	Demonstrate the disposal of single use equipment.	Dispose of single use equipment properly to prevent the spread of infection

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Follow Infection Control Procedures

TASK NUMBER: D-3 Dispose properly of biohazardous material

COMPETENCY: Employ approved standards for disposing of biohazardous material.

EVALUATIVE CRITERION: Dispose of biohazardous material according to standards.

COURSE NUMBERS: EMS 152 EMS 153 EMS 161 EMS 171 EMS 162 EMS 162 EMS 263 EMS 273

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Guidelines 1. Center for Disease Control a. MMWR 37 (24), 1988 b. MMRW 38 (38), 1989 2. NAEMT Report on Infection and Infection Control, 3-90	Become familiar with the guidelines available for the proper disposal of biohazardous material.	Identify two sources of guidelines for the proper disposal of contaminated material.
B. Regulations 1. NC Administratve Code T10: 03D .0900 a. Health care facilities b. County Health Department	Become familiar with local protocol for disposing of biohazardous material as provided for in the NC Administrative Code.	Identify the source of local protocol for the disposal of biohazardous material.
C. Disposal Procedures 1. Needles 2. Sharp instruments 3. Respiratory equipment 4. Suction equipment 5. Protective equipment	Practice disposing of biohazardous materials.	Utilize local protocol to dispose of biohazardous material properly.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Follow Infection Control Procedures

TASK NUMBER: D-4 Sanitize and disinfect unit and equipment

COMPETENCY: Utilize approved standards to clean and disinfect emergency vehicles and equipment.

COURSE NUMBERS: EMS 256 EMS 171 EMS 172 EMS 273

EVALUATIVE CRITERION: Clean and disinfect an emergency vehicle and selected equipment according to infection control standards.

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Safety 1. Employ protective equipment when cleaning	Practice cleaning and disinfecting techniques while utilizing protective equipment.	Utilize the appropriate protective equipment for cleaning and disinfecting the emergency vehicle and selected equipment.
2. Dispose of disposable equipment	Describe methods for disposing of single use equipment.	Properly dispose of single use equipment.
B. Guidelines 1. Center for Disease Control a. MMWR 37 (24), 1988 b. MMRW 38 (38), 1989 2. NAEMT Report on Infection and Infection Control, 3-90	Become familiar with the guidelines for cleaning and disinfecting emergency vehicles and equipment.	Identify two source of guidelines for cleaning and disinfecting emergency vehicles and equipment.

TASK NUMBER: D-4 Sanitize and disinfect unit and equipment (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
C. Regulations 1. NC Administrative Code T10: 03D .0900 a. Health care facilities b. County Health Department	Become familiar with local protocol for cleaning and disinfecting emergency vehicles and equipment as provided for in the NC Administrative Code.	Identify the source of local protocol for cleaning and disinfecting emergency vehicles and equipment.
D. Procedures 1. Clean by wiping 2. Disinfect by wiping 3. Clean by washing 4. Disinfect by immersion 5. Sterilization	Practice cleaning and disinfecting the emergency vehicle and equipment.	Clean and disinfect the emergency vehicle and selected equipment according to approved local standards.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Follow Infection Control Procedures

TASK NUMBER: D-5 Report significant exposure

COMPETENCY: Follow standardized procedures for reporting significant exposure to an infectious agent.

COURSE NUMBERS: EMS 151 EMS 153 EMS 155 EMS 171 EMS 172 EMS 273

EVALUATIVE CRITERION: Employ appropriate measures for reporting significant exposure to an infectious agent.

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Significant Exposure 1. Parenteral a. needle stick b. cut c. nonintact skin 2. Mucous membrane a. splash to eye b. splash to mouth	Describe what constitutes a significant exposure to an infectious agent.	Identify a significant exposure to an infectious agent for a variety of patient interactions.
B. Guidelines 1. Center for Disease Control a. MMWR 36 (31), 1987 b. MMWR 36 (32), 1987 c. MMWR 37 (24), 1988 d. MMRW 38 (38), 1989	Become familiar with the guidelines provided by various agencies for the handling of significant exposure to infectious agents by emergency medical personnel.	Identify two sources which provide guidelines for handling significant exposure to infectious agents by emergency medical personnel.

TASK NUMBER: D-5 Report significant exposure (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
2. National Association of Emergency Medical Technicians (NAEMT) a. Report on Infection and Infection Control, 3-90		
C. Reporting of Exposure 1. Standardized procedure a. EMS system b. Receiving hospital	Describe the need for a standardized procedure for reporting significant exposure.	Describe the local protocol for reporting a significant exposure to an infectious agent.
2. Documentation a. incident report b. patient records c. exposure report	Review means of documenting a significant exposure to an infectious agent.	Document a significant exposure to an infectious agent according to local protocol.
3. Notification a. EMS infection control officer b. receiving hospital	Describe notification procedures for a significant exposure to an infectious agent.	List the personnel who, according to local protocol, must be notified of a significant exposure to an infectious agent.
4. Follow up notification a. EMS infection control officer b. receiving hospital	Describe follow-up notification procedures following a significant exposure to an infectious agent.	Identify appropriate follow-up procedures after initial notification of a significant exposure to an infectious agent.

TASK NUMBER: D-5 Report significant exposure (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
D. Prevention of Exposure 1. Infection control procedures 2. Continuing education	Describe measures which can be taken to lessen the risk of a significant exposure to an infectious agent.	Identify preventive measures which can lessen the risk of a exposure to an infectious agent.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Coordinate Rescue Efforts, Gain Access, and Extricate

TASK NUMBER: E-1 Protect self

COMPETENCY: Utilize techniques to protect oneself during a rescue operation.

COURSE NUMBERS: EMS 156

EVALUATIVE CRITERION: Protect oneself at the scene of a rescue.

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Use of Protective Clothing		Utilize protective clothing appropriate to a particular rescue operation.
1. Infectious disease protection a. latex gloves b. face mask c. eye shield	Demonstrate the use of clothing which protects the rescuer against infectious disease during a rescue operation.	
2. Environmental protection a. fire resistance b. maintains body temperature c. penetration resistance	Demonstrate the use of clothing which protects the rescuer against environmental hazards during a rescue operation.	
3. Protection of specific body parts a. gloves b. helmets c. boots d. face shields e. body armor	Demonstrate the use of clothing which protects specific body parts of the rescuer during a rescue operation.	

TASK NUMBER: E-1 Protect self (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
B. Use of Protective Equipment 1. Eye protection devices 2. Hearing protection devices 3. Breathing protection devices	Demonstrate the use of equipment which protects the rescuer during a rescue operation.	Utilize protective equipment appropriate to a particular rescue operation.
C. Safety Hazards 1. Environmental 2. Structural 3. Psychological 4. Physical 5. Others	Describe hazards faced by the rescuer which can result in injury during a rescue operation.	Recognize without error hazards which can result in injury to the rescuer during a rescue operation.
D. Safety Pitfalls 1. Underestimating hazards 2. Overestimating ability 3. Overestimating endurance 4. Exceeding safety margins 5. Going it alone 6. Untrained personnel	Describe unsafe procedures which can result in injury to the rescuer during a rescue operation.	Recognize without error unsafe procedures which can result in injury to the rescuer during a rescue operation.

TASK NUMBER: E-1 Protect self (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
E. Specialized Training 1. Water rescue 2. Rescue from heights 3. Vehicle rescue 4. Hazardous material rescue 5. Trench rescue 6. Hostage rescue 7. Other types of rescue	Recognize the need for specialized training in rescue.	Undergo training appropriate to a particular type of rescue operation before participating in a rescue.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Coordinate Rescue Efforts, Gain Access, and Extricate

TASK NUMBER: E-2 Protect patient

COMPETENCY: Utilize techniques to protect the patient during a rescue operation.

COURSE NUMBERS: EMS 156

EVALUATIVE CRITERION: Protect the patient from further injury during a rescue operation.

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Use of Protective Equipment 1. Shielding 2. Eye protection devices 3. Breathing protection devices 4. Hearing protection devices 5. Heating devices 6. Cooling devices	Demonstrate the use of equipment which protects the patient during a rescue operation.	Utilize equipment appropriate to a particular rescue operation which protects the patient from further harm during a simulated rescue.
B. Use of Protective Clothing 1. Helmet 2. Blanket 3. Turn out coat	Demonstrate the use of clothing which protects the patient during a rescue operation.	Utilize clothing appropriate to a particular rescue operation which protects the patient from further harm during a simulated rescue.
C. Psychological Support 1. Reassure 2. Provide information	Demonstrate the use of techniques which provide psychological support to the patient during a rescue operation.	Utilize appropriate techniques to provide psychological support to a patient during a simulated rescue.

TASK NUMBER: E-2 Protect patient (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
D. Disentanglement, Extrication, and Evacuation 1. Unnecessary body movement 2 Patient advocacy 3. Patient's medical condition	Demonstrate techniques of disentanglement, extrication, and evacuation which consider the patient's medical condition.	Employ appropriate techniques of disentanglement, extrication, and evacuation which take into consideration the patient's medical condition.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Coordinate Rescue Efforts, Gain Access, and Extricate

TASK NUMBER: E-3 Identify equipment and personnel needs

COMPETENCY: Identify equipment and personnel necessary to effect a safe rescue.

COURSE NUMBERS: EMS 156

EVALUATIVE CRITERION: Determine the equipment and personnel needed for a given rescue.

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Nature of Rescue 1. Type of rescue 2. Patient/s location 3. Number of patients 4. Scene hazards 6. Environmental conditions	Describe those aspects of a rescue situation which influence equipment and personnel needs.	Assess the nature of a rescue situation to determine equipment and personnel needs.
B. Medical Considerations 1. Injured verses uninjured 2. Safety of patient/rescuer	Describe the medical aspects of a rescue situation which influence equipment and personnel needs.	Assess the medical aspects of a rescue situation to determine equipment and personnel needs.
C. Capabilities 1. Responding personnel 2. Available equipment	Describe the capabilities of personnel and equipment needed for various rescue situations.	Assess the capabilities of available rescue personnel and equipment for a given rescue situation.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Coordinate Rescue Efforts, Gain Access, and Extricate

TASK NUMBER: E-4 Utilize rescue equipment

COMPETENCY: Gain access and extricate the patient using rescue equipment.

COURSE NUMBERS: EMS 156

EVALUATIVE CRITERION: Use rescue equipment to safely gain access and extricate the patient in need of rescue.

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Types of Rescues 1. Water rescue 2. Rescue from heights 3. Vehicle rescue 4. Hazardous material rescue 5. Trench rescue 6. Hostage situations 7. Confined space rescue 8. Other rescues	Describe the nature of rescues requiring specialized equipment.	Identify a situation requiring specialized rescue equipment.
B. Rescue Equipment 1. Safety devices a. clothing b. equipment	Describe safety equipment appropriate to various rescue operations.	Identify safety equipment needed for a given rescue situation.
2. Access equipment a. vehicles b. hand devices c. power devices	Describe and practice with access equipment appropriate to various rescue operations.	Identify patient access equipment needed for a given rescue situation.

TASK NUMBER: E-4 Utilize rescue equipment (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
3. Medical equipment	Describe medical equipment necessary during various rescue operations.	Identify medical equipment necessary for a given rescue situation.
4. Disentanglement equipment a. hand tools b. power tools	Describe and practice with disentanglement equipment appropriate to various rescue operations.	Identify disentanglement equipment needed for a given rescue situation.
5. Extrication equipment a. packaging devices b. immobilization devices	Describe and practice with extrication equipment appropriate to various rescue operations.	Identify extrication equipment needed for a given rescue situation.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Coordinate Rescue Efforts, Gain Access, and Extricate

TASK NUMBER: E-5 Establish or function within an incident command system (ICS)

COMPETENCY: Utilize the incident command system to coordinate a major rescue operation.

COURSE NUMBERS: EMS 156

EVALUATIVE CRITERION: Operate effectively within an incident command structure during a major rescue.

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Advantages of ICS 1. Employs preplanning 2 Provides for control and coordination 3. Defines lines of authority 4. Provides for transfer of command 5. Effects communication 6. Utilizes common vocabulary 7. Utilizes review process	Describe the advantage of an ICS in the context of rescue and extrication situations.	List the advantages of using an incident command system during a rescue operation.
B. Scope of ICS 1. Coordination 2. Communication 3. Safety 4. Triage 5. Staging 6. Supply	Describe the responsibilities of an incident command system during a rescue operation.	Identify potential sector designations of an ICS based of the scope of responsibility of the system during a rescue operation.

TASK NUMBER: E-5 Establish or function within an incident command system (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
7. Extrication 8. Treatment 9. Transport		
C. ICS Structure		Design an ICS organizational chart to accommodate the needs of a given rescue scenario.
1. Based on complexity of incident	Describe the levels of complexity of an ICS necessary to handle various rescue situations.	
2. Top down organization a. incident commander b. task sectors c. task sub-sectors d. personnel and equipment assigned to sectors and sub- sectors by crews	Describe the organization chart of an ICS for rescues of various levels of complexity.	
D. Personnel Responsibilities 1. Incident commander 2. Command staff 3. Section officers 4. Crew leaders 5. Crew members	Describe the responsibilities of various personnel within an incident command system.	Function appropriatly at each level of responsibility of the incident command system during a simulated exercise.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: E-5 Establish or function within an incident command system (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
E. ICS Tools 1. Identification clothing 2. Command post vehicle 3. Communication devices	Describe the use of specialized tools within an incident command system.	Employ appropriately each of the tools utilized by the ICS for a given rescue scenario.
F. Communications 1. Backbone of ICS 2. Follows chain of command	Describe the function of communications to an ICS during a rescue operation.	Communicate effectively as a functioning member of an incident command system.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Communicate

TASK NUMBER: F-1 Develop professional rapport

COMPETENCY: Utilize techniques of communication to establish working relationships.

COURSE NUMBERS: EMS 256 ENG 271

EVALUATIVE CRITERION: Establish effective, working relationships.

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Rapport with Patients 1. Initial contact a. identify self b. ask permission to help c. reassure patient.	Describe techniques which can be used to establish rapport with the patient.	Demonstrate the proper technique for initial contact with the patient.
2. Patient interview a. ask patient's name and use it b. speak normally c. make physically contact d. avoid confrontation e. answer truthfully f. provide information	Practice interviewing employing techniques which can be used to develop rapport with the patient.	Demonstrate appropriate techniques for developing rapport during the patient interview process.
B. Rapport with Family/Bystanders 1. Initial contact a. identify self b. reassure	Describe techniques which can be used to establish rapport with the family and/or bystanders at the scene of an emergency.	Demonstrate appropriate techniques for establishing initial contact with family and/or bystanders at the scene of an emergency.

TASK NUMBER: F-1 Develop professional rapport (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
2. Interview a. ask name and use it b. speak normally c. avoid confrontation d. answer truthfully e. provide information	Practice interviewing family and bystanders employing techniques which can be used to develop rapport with members of these groups.	Demonstrate appropriate techniques for establishing rapport during the interview process with family and/or bystanders.
C. Rapport with Partner 1. Developing a partnership a. trust b. talking it out	Describe techniques which can be used to establish a professional relationship with an EMS partner.	Demonstrate appropriate techniques for establishing a professional relationship with an EMS partner.
2 On the scene a. two heads better than one b. ask or offer c. body language	Describe techniques which can be used to develop an effective, working partnership.	Demonstrate appropriate techniques for establishing an effective, working partnership.
D. Rapport with Superiors 1. Approach to job a. honest b. thorough c. competent	Describe techniques which can be used to establish an effective, working relationship with superiors.	Demonstrate appropriate techniques for establishing an effective, working relationship with superiors.
2. Communications a. open b. timely		

TASK NUMBER: F-1 Develop professional rapport (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
E. Rapport with Other Medical Care Providers 1. Approach to job a. honest b. thorough c. competent 2. Communications a. open b. timely	Describe techniques which can be used to establish a professional relationship with other medical care providers.	Demonstrate appropriate techniques for establishing a professional relationship with other medical care providers.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Communicate

TASK NUMBER: F-2 Relay patient information

COMPETENCY: Utilize techniques of communication to relay patient information.

COURSE NUMBERS: EMS 151 EMS 153 EMS 256 EMS 171 EMS 172 EMS 273 ENG 271

EVALUATIVE CRITERION: Transmit accurate patient information to those requiring it to continue patient care.

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Radio Reports		
1 Content a. patient identification b. chief complaint c. pertinent positives d. pertinent negatives e. vital signs f. medications g. allergies h. estimated time of arrival i. requests	Prepare radio reports for patients with a variety of chief complaints.	Prepare accurate radio reports for a variety of patient presentations.
2. Radio technique a. avoid use of codes b. use normal speaking voice c. organize report d. employ economy of language e. repeat orders	Practice giving radio reports using the techniques of radio communication.	Present a radio report using appropriate techniques of radio communication.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: F-2 Relay patient information (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
B. Patient Turn-Over		
1. To another paramedic a. patient identification b. chief complaint c. pertinent positives d. pertinent negatives e. vital signs f. medications g. allergies h. change in status i. care rendered j. patient response to care	Describe the contents of the report which is given when one paramedic turns over patient care to another paramedic.	Present an accurate report on a patient's status when turning over patient care to another paramedic.
2. To hospital emergency department staff a. change in status b. care rendered c. patient response to care	Describe the contents of the report which is given when a paramedic turns over patient care to the hospital emergency department staff.	Present an accurate report on a patient's status when turning over patient care to the hospital emergency department staff.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: F-2 Relay patient information (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
3. To other facility care givers a. patient identification b. chief complaint c. pertinent positives d. pertinent negatives e. vital signs f. medications g. allergies h. change in status i. care rendered j. patient response to care	Describe the contents of the report which is given when a paramedic turns over patient care to another facility care giver.	Present an accurate report on a patient's status when turning over patient care to another facility care giver.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Communicate

TASK NUMBER: F-3 Communicate with special populations

COMPETENCY: Utilize techniques to communicate with special patient populations.

COURSE NUMBERS: EMS 256 EMS 257 ENG 271

EVALUATIVE CRITERION: Obtain necessary information from special patient populations through the use of effective communication techniques.

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Age 1. Children 2. Elderly	Describe techniques which enable the paramedic to communicate effectively with the very young and very old.	Obtain and transmit necessary information through effective communication with a pediatric and a geriatric patient.
B. Physical Condition 1. Coma patient 2. Physically handicapped	Describe techniques which enable the paramedic to communicate effectively with patients whose physical condition makes communication difficult.	Obtain and transmit necessary information through effective communication with patients having various physical conditions which interfere with communications.
C. Mental Barriers 1. Mentally handicapped 2. Non-English speaking 3. Mental illness	Describe techniques which enable the paramedic to communicate effectively with patients having mental barriers to communication.	Obtain and transmit necessary information through effective communication with patients with mental barriers to communication.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Communicate

TASK NUMBER: F-4 Operate communication equipment

COMPETENCY: Operate communication equipment to transmit and receive information.

COURSE NUMBERS: EMS 256 EMS 273

EVALUATIVE CRITERION: Transmit and receive information by radio according to appropriate operating procedure.

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. EMS Communications System		
1. Components a. base station b. remote console c. two way radios d. portable radios e. repeaters f. cellular telephones g. encoders and decoders h. satellites	Describe the components of an EMS communications system and their uses.	Identify correctly by function the components of an EMS communications system.
2. Radio frequencies a. amplitude modulation b. frequency modulation c. Hertz d. bands e. MED channels	Describe the terms which apply to radio frequencies in general and EMS frequencies in particular.	Define terms used to describe radio frequencies. Identify correctly EMS communications frequencies.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: F-4 Operate communication equipment (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
3. Types of transmission a. simplex b. duplex c. multiplex d. biotelemetry	Describe the radio transmissions types available to EMS systems and the function of each.	Identify accurately by type a variety of communication transmissions.
B. Operating Procedures		
1. FCC licensing	Describe FCC licensing procedures which apply to EMS.	Identify a valid FCC operating license.for an EMS system.
2. FCC regulations	Describe FCC regulations which apply to EMS.	Adhere to FCC regulations during a radio transmission.
3. Dispatching	Describe procedures for receiving information from the dispatcher and responding.	Receive instructions from the dispatcher and transmit an appropriate response.
4. Codes	Describe the advantages and disadvantages of the use of codes in radio transmissions.	Use local protocol regarding codes in the transmission of a radio message.
5. Radio technique	Practice giving radio reports using the techniques of radio communication.	Present a radio report using appropriate techniques of radio communication.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Display Professionalism

TASK NUMBER: G-1 Comply with federal, state, and local rules, regulations, and guidelines.

COMPETENCY: Obey federal, state, and local rules, regulations, and guidelines while functioning as an EMT-P, EMT-AI,.EMT-I, EMT-D or EMT.

COURSE NUMBERS: EMS 152 EMS 153 EMS 258

EVALUATIVE CRITERION: Perform as an EMT adhering to applicable laws, rules, and regulations.

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Laws Governing EMS 1. Federal 2. State	Describe pertinent federal and state legislation governing the role and practice of the EMT.	Perform at the appropriate EMT level according to federal and state statutes.
B. Regulations Governing EMS		
1. Federal a. safety b. compensation c. employment	Describe pertinent federal regulations governing the role and practice of the EMT.	Perform at the appropriate EMT level according to federal regulations.
2. North Carolina a. Board of Medical Examiners b. Medical Care Commission c. Department of Human Resources, Office of Emergency Medical Services	Describe pertinent state regulations governing the role and practice of the EMT.	Perform at the appropriate EMT level according to state regulations.

TASK NUMBER: G-1 Comply with federal, state, and local rules, regulations, and guidelines (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
C. Local Rules and Regulations 1. Municipal 2. EMS system	Describe pertinent local rules and regulations governing the role and practice of the EMT.	Perform at the appropriate EMT level according to local rules and regulations.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Display Professionalism

TASK NUMBER: G-2 Continue professional development

COMPETENCY: Continue professional development through professional development activities.

COURSE NUMBERS: EMS 151 EMS 258 EMS 259

EVALUATIVE CRITERION: Practice continued professional development.

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. State Recertification Requirements		
1. EMT-paramedic a. continuing education - 48 hours annually b. performance evaluation c. medical director recommendation d. ALS written exam e. practical exam	Describe the recertification process for the EMT-paramedic.	Identify the recertification requirements for the EMT-paramedic.
2. EMT-advanced intermediate a. continuing education - 48 hours annually b. performance evaluation c. medical director recommendation d. ALS written exam e. practical exam	Describe the recertification process for the EMT-advanced intermediate.	Identify the recertification requirements for the EMT-advanced intermediate.

TASK NUMBER: G-2 Continue professional development (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
3. EMT-intermediate a. continuing education - 48 hours annually b. performance evaluation c. medical director recommendation d. ALS written exam e. practical exam	Describe the recertification process for the EMT-intermediate.	Identify the recertification requirements for the EMT-intermediate.
4. EMT-defibrillation a. continuing education - 36 hours annually b. performance evaluation c. medical director recommendation d. ALS written exam e. practical exam	Describe the recertification process for EMT-defibrillation.	Identify the recertification requirements for EMT-defibrillation.
5. EMT a. continuing education - 36 hours annually b. state practical exam	Describe the recertification process for the EMT.	Identify the recertification requirements for the EMT.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: G-2 Continue professional development (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
B. Continuing Professional Education		
1. Self-directed learning a. journals b. videotapes c. seminars/workshops d. self-study	Describe ways of continuing professional education through self-directed means.	Identify specific ways of continuing professional education through self-directed means.
2. Professional Organizations a. national b. state	Describe ways of continuing professional education through professional organizations.	Identify specific ways of continuing professional education through participation in professional organizations.
3. Practical experience a. job experience b. in hospital experience c. manikin practice d. field drills	Describe ways of continuing professional education through clinical experience.	Identify specific ways of continuing professional education through practical experience.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Display Professionalism

TASK NUMBER: G-3 Protect confidentiality

COMPETENCY: Employ ethical and legal standards to protect patient confidentiality.

COURSE NUMBERS: EMS 151 EMS 153 EMS 258

EVALUATIVE CRITERIA: Adhere to ethical and legal standards in the protection of patient confidentiality.

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Legal Aspects 1. Right to privacy laws 2. Confidentiality laws 3. Abuse reporting laws	Describe the laws which govern the confidentiality of patient information.	Cite laws governing patient confidentiality for the local jurisdiction.
B. Ethical Considerations		
1. Right to know a. abuse situations b. medical director c. additional caregivers d. supervisor e. parents of children	Describe situations where information concerning a patient may be transmitted from the paramedic to another individual.	Identify without error situations in which information about a patient may be transmitted from the paramedic to another individual.
2. No right to know a. press b. caregiver's family c. friends d. coworkers e. general public	Describe situations where information concerning a patient may not be transmitted from the paramedic to another individual.	Identify without error situations in which information about a patient may not be transmitted from the paramedic to another individual.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Display Professionalism

TASK NUMBER: G-4 Respect others

COMPETENCY: Demonstrate repect for others through professional behavior and demeanor.

COURSE NUMBERS: EMS 258 ENG 271

EVALUATIVE CRITERION: Demonstrate respect for others at all times through behavior and speech.

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Demonstrations of Respect		
1. Method of address	Describe how addressing individuals by name and title demonstrates respect for others.	Demonstrate respect for others by properly identifying them.
2. Consistency of care	Describe how treating all patients equally demonstrates respect for others	Demonstrate respect for others by treating all individuals in the same manner.
3. Maintain patient confidentiality	Describe how maintaining patient confidentiality demonstrates respect for others.	Demonstrate respect for others by maintaining patient confidentiality in all instances.
4. Manner of dress	Describe how the manner of dress of the EMS professional demonstrates respect for others.	Demonstrate respect for others by adhering to the dress code at all times while on duty.

TASK NUMBER: G-4 Respect others (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
5. Manner of communication	Describe how one's manner of communication demonstrates respect for others.	Demonstrate respect for others by communicating with others at an appropriate level and in an appropriate manner.
6. Maintenance of skills and knowledge	Describe how maintenance of skills and knowledge demonstrates respect for others.	Demonstrate respect for others by maintaining ones skills and knowledge through continuing education.
7. Adhering to standards	Describe how adhering to standards demonstrates respect for others.	Demonstrate respect for others by adhering to practice standards at all times.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Display Professionalism

TASK NUMBER: G-5 Demonstrate ethical behavior

COMPETENCY: Adhere to professional standards.

COURSE NUMBERS: EMS 258 EMS 273

EVALUATIVE CRITERION: Maintain professional standards at all times.

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Definition 1. ethics 2. ethical behavior	Discuss the definition of ethics and ethical behavior.	Demonstrate an appropriate understanding of the terms ethics and ethical behavior.
B. Standards of Conduct 1. Oath of Geneva 2. The EMT Oath 3. The EMT Code of Ethics	Describe the standards of conduct for EMS professionals contained in published documents.	Perform as an EMS professional according to the standards established for the profession.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Display Professionalism

TASK NUMBER: G-6 Adhere to dress code

COMPETENCY: Adhere to the dress code for routine and specialized situations.

COURSE NUMBERS: EMS 151 EMS 258

EVALUATIVE CRITERIA: Dress according to standardized uniform regulations.

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Uniform 1. complete 2. neat 3. clean	Describe the standard uniform for patient contact.	Present a professional appearance through the use of a uniform.
B. Badges 1. role	Describe the role badges play in the identification of EMS personnel.	Identify the role badges play in the professional appearance of an emergency care giver.
2. as threat to personal safety	Describe the possible risks to personal safety posed by the wearing of a badge with the EMS uniform.	Recognize the risk the wearing of the badge may play to the personal safety of the emergency care giver.
3. role in patient communication	Describe how the wearing of a badge may interfere with patient communication at the scene of an emergency.	Recognize how the wearing of a badge may interfere with patient communication at the scene of an emergency.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: G-6 Adhere to dress code (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
C. Protective Clothing		
1. Use a. fire scene b. hazardous materials contact c. infectious disease d. accident scene	Describe the types of protective clothing available to EMS personnel to supplement the standard uniform in specialized situations.	Identify the types of protective clothing suitable as a supplement to the standard uniform for particular specialized emergency situations.
2. Misuse a. not used at all b. not used properly	Describe the inappropriate use of specialized protective clothing used to supplement the standard uniform in specialized situations.	Identify how supplemental protective clothing may be misused in particular emergency situations.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Display Professionalism

TASK NUMBER: G-7 Maintain personal hygiene

COMPETENCY: Practice personal hygiene routinely.

COURSE NUMBERS: EMS 161 EMS 162 EMS 263 EMS 171 EMS 172 EMS 273

EVALUATIVE CRITERION: Perform personal hygiene practices on a regular basis.

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Areas of Concern		
1. Handwashing	Describe the benefits of proper handwashing.	Demonstrate proper handwashing techniques.
2. Body structures a. oral cavity b. skin c. hair d. nails	Discuss the necessity of maintaining the hygiene of the oral cavity, skin, hair, and nails.	Identify body areas requiring the use of personal hygiene practices.
3. Scents a. deodorants b. perfumes	Discuss the benefits and potential patient side effects of the use of scented products in the maintenance of personal hygiene.	Identify benefits and hazards to the use of scented products in the maintenance of personal hygiene.
B. Rational for Personal Hygiene 1. Patient/family a. safety b. confidence c. comfort	Describe the necessity for maintaining personal hygiene.	Demonstrate personal hygiene habits routinely.

TASK NUMBER: G-7 Maintain personal hygiene (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
2. Caregiver a. safety 3. Co-workers a. safety b. comfort		

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Display Professionalism

TASK NUMBER: G-8 Provide public education

COMPETENCY: Utilize educational methods to provide information to the public.

COURSE NUMBERS: EMS 259

EVALUATIVE CRITERION: Provide the public with relevant information through education.

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Types of Education 1. Basic life support 2. Safety 3. Emergency access 4. Preventive measures 5. Healthful practices	Describe the types of education which paramedics can provide for the general public.	Design a public education program.
B. Methods 1. School presentations 2. Displays 3. Meetings 4. Workshops 5. Classes	Describe educational methods which paramedics can use to provide information to the general public.	Present a public education program

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Operate Emergency Vehicle

TASK NUMBER: H-1 Inventory vehicle equipment and supplies

COMPETENCY: Perform an inventory of an emergency vehicle. to ensure availability of equipment and supplies.

COURSE NUMBERS: EMS 256 EMS 171 EMS 172 EMS 273

EVALUATIVE CRITERIA: Inventory the contents of an emergency vehicle and record the results accurately.

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Item-by Item Check 1. Supplies a. disposables b. oxygen c. drugs and fluids 2. Medical equipment 3. Rescue tools 4. Safety equipment	Demonstrate methods for completing an inventory of supplies and equipment maintained on an emergency vehicle.	Inventory the supplies and equipment on an emergency vehicle accurately.
B. Item-by-Item Operation 1. Medical equipment a. clean b. operational 2. Rescue equipment a. clean b. operational 3. Safety equipment a. clean b. operational	Demonstrate methods for ensuring the functioning of equipment maintained on an emergency vehicle.	Assess the operational status of equipment on an emergency vehicle accurately.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: H-1 Inventory vehicle equipment and supplies (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
C. Item-by-Item Location 1. assigned compartment or location 2. secured	Demonstrate methods for securing equipment and supplies in an emergency vehicle and ensuring rapid access to them.	Locate and secure supplies and emergency equipment in their proper locations in an emergency vehicle.
D. Record Keeping 1. Checklist 2. Daily inventory	Demonstrate methods for ensuring accurate reporting of equipment and supplies maintained on an emergency vehicle.	Report the inventory of the supplies and equipment on an emergency vehicle accurately.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Operate Emergency Vehicle

TASK NUMBER: H-2 Apply occupant restraints

COMPETENCY: Utilize techniques to secure occupants in emergency vehicles with the use of occupant restraints.

COURSE NUMBERS: EMS 256 EMS 171 EMS 172 EMS 273

EVALUATIVE CRITERION: Secure occupants of emergency vehicles prior to vehicle movement.

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Types and Times 1. Lab and shoulder belts a. for driver at all times	Demonstrate the application of seat belt restraints to occupants of the cab of an emergency vehicle.	Employ occupant restraints appropriately when riding as the driver or attendant in the cab of an emergency vehicle.
b. for passenger at all times		Employ occupant restraints appropriately with passengers in the cab of an emergency vehicle.
2. Lap belts a. for non-stretcher occupants in patient compartment at all times b. for care givers as possible	Demonstrate the application of seat belt restraints to occupants of the patient compartment of an emergency vehicle.	Employ occupant restraints appropriately to non-stretcher occupants of the patient compartment.

TASK NUMBER: H-2 Apply occupant restraints (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
3. Stretcher locking devices	Demonstrate securing the stretcher in the ambulance.	Secure the stretcher appropriately in an ambulance.
4. Stretcher straps a. for patient at all times when transported on stretcher	Demonstrate techniques for securing a patient on the stretcher.	Secure the patient appropriately on a stretcher.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Operate Emergency Vehicle

TASK NUMBER: H-3 Choose route

COMPETENCY: Utilize techniques to select a route to the scene of an emergency.

COURSE NUMBERS: EMS 256

EVALUATIVE CRITERION: Select an appropriate route to the emergency scene.

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Preplanning 1. Learning street names 2. Learning landmarks 3. Preplanned routes 4. Touring	Demonstrate techniques for familiarizing oneself with an emergency response area.	Demonstrate familiarity with an emergency response area.
B. Selecting a Route 1. Considerations a. time of day b. temporary barriers c. stops and turns d. railroad crossings e. uncontrolled intersections f. Opticom intersections g. vehicle height	Plan routes to various locations in a response area.	Plan an appropriate route to various locations of possible emergencies within a given response area.

TASK NUMBER: H-3 Choose route (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
2. Mapping route a. on board map book b. on board computerized map c. dispatch directions	Become familiar with various forms of directional materials and devices used in planning a route to an emergency.	Use the local directional materials or devices to plan routes to given locations in a particular response area.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Operate Emergency Vehicle

TASK NUMBER: H-4 Drive vehicle

COMPETENCY: Employ principles of safe driving in the operation of an emergency medical vehicle.

COURSE NUMBERS: EMS 256

EVALUATIVE CRITERION: Drive an emergency medical vehicle safely and in accordance with laws governing its operation.

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Ambulance Specifications 1. General Services Administration KKK-A-1822 Federal Specifications for Ambulances a. Type I b. Type II c. Type III 2. NC Administrative Code T10: 03D .0900 Vehicles a. Category I b. Category II c. Category III	Describe emergency medical vehicles according to federal type standards and state category.	Identify emergency medical vehicles according to federal type standards and state category.
B. Vehicle Inspection 1. Daily inspection a. walk around 1) body integrity 2) tires 3) leakage	Utilize local protocol to practice daily vehicle inspection.	Perform a daily vehicle inspection according to local protocol.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: H-4 Drive vehicle (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
b. under the hood 1) fluid levels 2) battery 3) hoses and belts		
c. driver compartment 1) seat 2) head rest 3) mirrors 4) seat belts		
d. systems check 1) lights 2) gauges 3) brakes 4) windshield wipers 5) radio 6) warning devices 7) heater and air conditioner		
2. Scheduled maintenance inspections	Describe a preventive maintenance schedule for an emergency vehicle.	Present emergency vehicle for scheduled preventative maintenance according to a planned schedule.
3. State inspection	Describe state vehicle inspection requirements.	Locate state vehicle inspection permit on emergency vehicle.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: H-4 Drive vehicle (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
B. Emergency Vehicle Driving		
1. Legal aspects a. civilian traffic laws b. emergency vehicle exceptions c. due regard d. negligence e. liability	Describe the laws which pertain to driving emergency medical vehicles.	Drive an emergency medical vehicle in accordance with the laws governing the driving of emergency vehicles.
2. Fundamentals of driving a. acceleration b. braking c. passing d. backing e. turning f. avoidance maneuvers g. adverse weather h. night driving	Practice driving an emergency medical vehicle under normal driving conditions.	Demonstrate safe and proper driving of an emergency medical vehicle.under normal driving conditions.
3. Fundamentals of emergency driving a. lights and sirens	Practice driving an emergency medical vehicle under emergency driving conditions.	Demonstrate safe and proper handling of an emergency medical vehicle under emergency driving conditions.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Operate Emergency Vehicle

TASK NUMBER: H-5 Position vehicle

COMPETENCY: Employ principles of safe operation of an emergency medical vehicle to position the vehicle.

COURSE NUMBERS: EMS 256

EVALUATIVE CRITERION: Position an emergency vehicle safely and in accordance with laws governing its operation.

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Routine Parking Procedures 1. Diagonal parking 2. Perpendicular parking 3. Parallel parking 4. Slopes	Practice parking an emergency medical vehicle under routine conditions.	Properly position an emergency medical vehicle in a variety of routine parking situations.
B. Parking at the Scene 1. Safety considerations a. vehicle safety b. occupant safety c. vehicle as hazard to traffic d. traffic as hazard to vehicle d. hazardous conditions 1) fire 2) materials	Practice parking an emergency medical vehicle under emergency conditions.	Properly position an emergency medical vehicle in a variety of emergency settings.

TASK NUMBER: H-5 Position vehicle (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
2 Access considerations a. patient access b patient loading c. egress from scene		
C. Warning Devices 1. Lights 2. Flares 3. Triangles	Demonstrate the use of warning devices at the scene of an emergency.	Use appropriate warning devices at the scene of an emergency.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Document Actions

TASK NUMBER: I-1 Complete ambulance call report

COMPETENCY: Utilize documentation techniques to complete an ambulance call report.

COURSE NUMBERS: EMS 152 EMS 256 EMS 273

EVALUATIVE CRITERION: Document a patient contact by completing an ambulance call report.according to standard.

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Standard Forms 1. State 2. EMS system	Describe available EMS documentation forms.	Identify the EMS documentation form used locally.
B. Common Contents 1. Patient presentation 2. Changes in patient condition 3. Care rendered a. medications b. intravenous fluids c. techniques utilized 4. Documentation of care a. EKG strip 5. Refusal of care and. transport 6. Relevant patient information 7. Times 8. Caregivers	Practice completing ambulance call reports to include all relevant information.	Complete ambulance call reports accurately and thoroughly for various patient presentations.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: I-1 Complete ambulance call report (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
9. Location of patient a. emergency or transport site b. receiving facility		
C. Legal Requirements of Call Reports 1. Legible 2. Signed	Practice writing call reports which meet legal standards.	Prepare legible call reports which contain required signatures.
D. Uses of Call Reports 1. Audit and review 2. Quality control 3. Data collection 4. Billing 5. As medical record 6. As legal record	Describe the uses of call reports.	Identify the uses for the ambulance call report.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Document Actions

TASK NUMBER: I-2 Complete incident/accident reports

COMPETENCY: Utilize documentation techniques to complete incident/accident reports.

COURSE NUMBERS: EMS 256 EMS 273

EVALUATIVE CRITERION: Document an incident or accident by completing the appropriate form.

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Standard Forms 1. state forms 2. EMS system forms 3. hospital forms	Describe the types of forms available for reporting incidents or accidents.	Identify the forms used locally for documenting an incident or accident.
B. Common Contents 1. Location 2. Incident/accident 2. Documentation of actions 3. Relevant supporting information 4. Times 5. Personnel involved	Describe the information most often contained in incident and accident reports.	Identify the information required on the forms used locally for documenting an incident or accident.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: I-2 Complete incident/accident reports (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
C. Requirements of Report 1. Timely 2. Legible 3. Identifiable 4. Complete 5. Accurate 6. Filed	Describe the requirements necessary for accurate data collection by emergency medical services regarding an incident or accident.	Prepare an incident report for a simulated situation. Prepare an accident report for a simulated situation.
D. Uses of Reports 1. Audit and review 2. Quality control 3. Medical intervention 4. Legal actions 5. Insurance claims 6. Other	Describe the use of incident and accident reports by emergency medical services.	Identify the uses made of incident or accident reports.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Document Actions

TASK NUMBER: I-3 Complete daily/activity log

COMPETENCY: Utilize documentation techniques to complete a log of activities.

COURSE NUMBERS: EMS 256

EVALUATIVE CRITERION: Document activities according to standards set by locals EMS agency.

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INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Types of Reports 1. daily activity log 2. patient contact log 3. ambulance run log	Describe methods for recording work activity available to emergency medical service agencies.	Identify the type of documentation used locally to record daily work activity.
B. Requirements of Log Reporting 1. Timely 2. Legible 3. Identifiable 4. Complete 5. Accurate	Describe the requirements necessary for the maintenance of an accurate work log.	Identify the requirements for an accurate record of activity.
Uses of Reports 1. Assignment of units and personnel 2. Quality control 3. Legal actions 4. Other	Describe the use of activity logs by emergency medical service agencies.	Identify the uses made of activity logs by emergency medical service agencies.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Document Actions

TASK NUMBER: I-4 Complete supplemental forms

COMPETENCY: Utilize documentation techniques to complete supplemental EMS forms

COURSE NUMBERS: EMS 256 EMS 273

EVALUATIVE CRITERION: Provide additional documentation on a patient contact by completing supplemental forms according to standard.

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Types of Forms 1. Billing 2. Research data collection 3. System data collection 4. Inventory 5. Quality control 6. Other local forms	Describe the types and functions of supplemental forms used by emergency medical service systems.	Identify the types of supplemental forms used for data collection by emergency medical service systems.
B. Requirements 1. Timely 2. Legible 3. Identifiable 4. Complete 5. Accurate 6. Filed	Describe the requirements necessary for accurate supplemental data collection by emergency medical service systems.	Prepare specific supplemental forms for information gathered during particular patient contacts.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Document Actions

TASK NUMBER: I-5 Record acceptance, transfer, and use of controlled drugs

COMPETENCY: Document the use of controlled substances according to state and federal law.

COURSE NUMBERS: EMS 154 EMS 254 EMS 256 EMS 263 EMS 273

EVALUATIVE CRITERION: Document all actions involving controlled drugs according to protocol.

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Drug Legislation 1. Harrison Narcotic Act of 1914 2. Comprehensive Drug Abuse Prevention and Control Act (1970)	Describe federal legislation regulating controlled drugs.	Identify the federal legislation regulating controlled drugs.
B. Schedule of Controlled Drugs 1. Schedule I 2. Schedule II 3. Schedule III 4. Schedule IV 5. Schedule V	Describe the categorization of controlled drugs.	Define the categories of controlled drugs.
C. Prescription Procedures		
1. Federal registration - Drug Enforcement Agency	Describe federal registration procedures for prescribers of controlled drugs.	Identify federal registration requirements for prescribers of controlled drugs.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: I-5 Record acceptance, transfer, and use of controlled drugs (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
2. State control - NC Board of Medical Examiners	Describe state procedures for registering prescribers of controlled drugs.	Identify individuals approved to order the administration of a controlled drug.
D. Paramedic Documentation Procedures		
1. Local protocol a. witnessed b. written documentation c. signature/s	Describe documentation procedures which may be required of paramedics permitted to carry and dispense on order substances on the schedule of controlled drugs.	Identify procedures required of paramedics by local protocol for documenting controlled drugs.
2. Procedures a. acceptance b. transfer c. use d. disposal	Describe controlled drug procedures for which documentation may be required of paramedics.	Document the acceptance, transfer, use, and disposal of a controlled substance according to local protocol.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Strive for Physical and Psychological Well-Being

EVALUATIVE CRITERION: Perform lifting and moving tasks safely and efficiently.

TASK NUMBER: J-1 Apply principles of body mechanics to lifting and moving patients and equipment

COMPETENCY: Utilize safe and efficient techniques to lift and move patients and equipment.

COURSE NUMBERS: EMS 151 EMS 255 EMS 171 EMS 272 EMS 273

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Techniques of Lifting 1. Plan ahead 2. Maintain balance throughout 3. Lift with legs 4. Lift on exhale	Describe the techniques for safely lifting a patient or equipment.	Demonstrate safe and efficient lifting body positions and movements.
B. Emergency Patient Moves 1. Indications a. scene is hazardous b. care requires it c. access to other patients	Describe situations where an emergency move is indicated.	Identify the patients requiring emergency moves from a variety of presentations.
2. Types a. one person assist, carry, and drag	Practice various types of emergency patient moves individually and with others employing lifting techniques.	Perform a one person emergency assist, carry and drag employing the techniques of efficient lifting.

TASK NUMBER: J-1 Apply principles of body mechanics to lifting and moving patients and equipment (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
b. two person assist and carry		Work cooperatively with a partner to perform a two person emergency assist and carry employing the techniques of efficient lifting.
c. three person carry		Work cooperatively with two others to perform a three person emergency carry employing the techniques of efficient lifting.
C. Non-emergency Patient Moves 1. Technique a. select carrying device b. package patient c. move patient	Describe the steps in carrying out a non-emergency patient move.	Identify the appropriate sequence for carrying out a non-emergency move employing a patient carrying device.
2. Patient carrying devices a. ambulance stretcher	Practice lifting and moving the patient using the ambulance stretcher.	Move a patient in a variety of settings using an ambulance stretcher and employing the proper techniques of lifting and moving.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: J-1 Apply principles of body mechanics to lifting and moving patients and equipment (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
b. long spine board	Practice lifting and moving the patient using a long spine board.	Move a patient in a variety of settings using a long spine board and employing the proper techniques of lifting and moving.
c. scoop stretcher	Practice lifting and moving the patient using a scoop stretcher.	Move a patient in a variety of settings using a scoop stretcher and employing the proper techniques of lifting and moving.
d. stair chair	Practice lifting and moving the patient using a stair chair.	Move a patient in a variety of settings using a stair chair and employing the proper techniques of lifting and moving.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Strive for Physical and Psychological Well-Being

TASK NUMBER: J-2 Recognize stress and institute interventions

COMPETENCY: Recognize signs of stress and utilize techniques of stress management to relieve stress.

COURSE NUMBERS: EMS 151 EMS 156 PSY 160 EMS 171 EMS 172 EMS 173

EVALUATIVE CRITERION: Maintain mental health by recognizing stress and practicing techniques which reduce stress.

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Signs of Stress 1. Carelessness a. job b. home c. personal hygiene	Describe the signs and symptoms of stress	Identify situations where inattention to detail indicates possible stress.
2. Deteriorating relationships a. family b. friends c. partner d. superiors		Identify situations where deteriorating relationships indicates possible stress.
3. Physical manifestations a. eating patterns b. frequent illness c. inappropriate fatigue d. inappropriate use of alcohol and/or drugs e. erratic sleep patterns		Identify situations where physical manifestations of stress are present.

TASK NUMBER: J-2 Recognize stress and institute interventions (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
B. Stress Intervention Techniques		
1. Exercise a. planned b regular basis	Describe methods of exercise which can be used to prevent and relieve stress.	Plan and execute a personal physical fitness program.
2. Relaxation techniques a. meditation b. imagery c. day dream d. deep breathing	Describe relaxation techniques which can be used to prevent and relieve stress.	Employ a relaxation technique on a regular basis.
3. Leave job at the job a. turn off scanner b. avoid overtime	Describe ways of leaving the job at the job which can be used to prevent and relieve stress.	Identify methods of reducing stress resulting from the job.
4. Counselling a. friend b. health professional c. religious professional	Describe individuals whom one can ask for help to relieve stress.	Identify individuals whom one can ask for help to relieve stress.
5. Personal habits a. avoid alcohol and/or drugs b. proper diet c. rest and sleep	Describe personal habits which one can cultivate which can be used to prevent and relieve stress.	Initiate healthy life style practice.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Coordinate Mass Casualty Incident

TASK NUMBER: K-1 Notify communication center

COMPETENCY: Utilize communication procedures to notify the emergency communication center of a mass casualty.

COURSE NUMBERS: EMS 156 EMS 256

EVALUATIVE CRITERION: Report a mass casualty situation accurately to the emergency communications center.

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Notification by General Public 1. Systems a. 911 b. non-911 2. Details a. location of incident b. nature of incident	Describe the emergency notification systems available for use by the general public.	Instruct a member of the public in the proper procedure for notifying the emergency communications center of a mass casualty situation.
B. Notification by First-on Scene Emergency Unit 1. Radio procedures 2. Details a. location of incident b. nature of incident c. estimate of casualties	Describe the notification responsibilities of the first arriving emergency unit at the scene of a mass casualty.	Employ appropriate radio communication procedures to inform the emergency communication center of a mass casualty.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: K-1 Notify communication center (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
C. Communication Center Responsibilities 1. Activate disaster plan 2. Notify emergency service agencies 3. Dispatch emergency units 4. Notify hospitals	Describe the responsibilities of the emergency communication center upon notification of a mass casualty.	Respond appropriately to orders issued from the emergency communications center.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Coordinate Mass Casualty Incident

TASK NUMBER: K-2 Establish command center

COMPETENCY: Utilize incident command procedures to establish a command center.

COURSE NUMBERS: EMS 156 EMS 256

EVALUATIVE CRITERION: Establish a functioning command center at the scene of a mass casualty.

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Establishment of Command 1. Initial incident commander a. senior member of first arriving unit b. communication center notified	Describe the establishment of command at the scene of a mass casualty utilizing incident command procedures.	Identify the initial incident commander of a simulated mass casualty situation.
2. Change in command a. according to disaster plan b. upon arrival of higher ranking personnel	Describe the change in command at the scene of a mass casualty utilizing incident command procedures.	Identify a new incident commander based on a plan for management of a mass casualty incident.
B Command Center 1. Location a. determined by incident commander b. dependent on nature and magnitude of incident	Describe the critical factors in determining the establishment of a command center at the scene of a mass casualty.	Locate and staff command center appropriatly at a simulated mass casualty incident.

TASK NUMBER: K-2 Establish command center (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
2. Size a. dependent on nature and magnitude of incident b. according to preplanning		
3. Number of personnel a. dependent on nature and magnitude of incident b. according to preplanning		
C. Command Center Requirements 1. effective communication 2. safety 3. identifiable 4. record keeping facilities 5. information gathering equipment	Describe the requirements of a functioning command center at the scene of a mass casualty.	Set up a functional command center at a simulated mass casualty incident.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Coordinate Mass Casualty Incident

TASK NUMBER: K-3 Establish interagency communications

COMPETENCY: Utilize incident command procedures to establish interagency communications.

COURSE NUMBERS: EMS 156 EMS 256

EVALUATIVE CRITERION: Establish an effective communications system among agencies involved in a mass casualty.

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Communications 1. Responsibility a. interagency rests with incident commander b. intraagency follows chain of command c. communications officer at command center	Describe the responsibilities for establishment of communications during a mass casualty	Designate the individual/s responsible for communications at the scene of a simulated mass casualty.
2. Radio communications a. with command center b. with communications center	Describe the procedure for communication with various units involved in a mass casualty.	Communicate according to procedure during a simulated mass casualty incident.
3. Identification of personnel a. verbal b. visual	Describe means of identifying personnel involved in a mass casualty which will aid in communication among agencies.	Demonstrate two means of identifying personnel during a mass casualty situation.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: K-3 Establish interagency communications (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
B. Communication Procedures 1. Mass casualty plan 2. FCC regulations	Describe communication procedures to be used during a mass casualty.	Communicate according to procedure and regulation during a simulated mass casualty incident.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Coordinate Mass Casualty Incident

TASK NUMBER: K-4 Perform patient triage

COMPETENCY: Utilize triage procedures to determine treatment priorities of the victims of a mass casualty.

COURSE NUMBERS: EMS 156 EMS 255 EMS 256

EVALUATIVE CRITERION: Triage the victims of a mass casualty incident accurately.

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Concept of Triage 1. Definition 2. Ethical basis 3. Advantages	Describe the concept of triage and the use of triage in a mass casualty incident.	Recognize the emergency situation which requires the use of triage.
B. START Method of Triage 1. Walking wounded a. immediately cleared from scene b. located together c. assessed later d. treated later 2. Downed victims a. 60 second assessment 1) ventilation 2) perfusion 3) neurological status	Practice triaging patients according to the START method.	Triage the victims of a simulated mass casualty incident accurately according to the START method.

TASK NUMBER: K-4 Perform patient triage (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
b. categories		
1) dead/non-salvagable		
2) critical/immediate		
3) delayed		
c. corrective actions		
1) clear airway		
2) stop hemorrhage		
d. tags		
C. Other Triage Methods	Describe other triage methods.	Recognize other methods appropriate to triaging patients.
1. METTAG		
2. Military		
3. Others		

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Coordinate Mass Casualty Incident

TASK NUMBER: K-5 Establish treatment area

COMPETENCY: Utilize incident command procedures to establish a treatment area at the scene of a mass casualty.

COURSE NUMBERS: EMS 156 EMS 255 EMS 256

EVALUATIVE CRITERION: Establish a safe area for the effective treatment of the victims of a mass casualty.

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Rationale 1. Central area 2. Marshalling of resources for maximum care	Describe the basis for establishing a treatment area at the scene of a mass casualty.	Provide the rationale for a central treatment area at the scene of a mass casualty.
B. Treatment Sector Officer 1. Selects location 2. Determines personnel requirements 3. Determines supply requirements 4. Requests requirements of command	Describe the responsibilities of the individual who has jurisdiction for treatment at the scene of a mass casualty.	Establish an appropriate treatment area with adequate staff and supplies at the scene of a simulated mass casualty.

TASK NUMBER: K-5 Establish treatment area (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
C. Staging Sector Officer 1. Receives request from command 2. Sends supplies and personnel to treatment area	Describe the responsibilities of the the individual who has jurisdiction for supplying the treatment area at the scene of a mass casualty.	Supply the personnel and equipment needs of a treatment area at the scene of a simulated mass casualty.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Coordinate Mass Casualty Incident

TASK NUMBER: K-6 Establish staging area

COMPETENCY: Utilize incident command procedures to establish a staging area at the scene of a mass casualty.

COURSE NUMBERS: EMS 156 EMS 256

EVALUATIVE CRITERION: Establish a safe area which allows effective dissemination of supplies and equipment at a mass casualty incident.

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Staging Sector 1. Collection area a. personnel b. equipment c. supplies d. vehicles 2. Distribution point a. to treatment sector b. to transportation sector c. to extrication sector d. to other sectors as needed	Describe the functions of the staging sector at the scene of a mass casualty.	Define the functions of the staging sector in the context of incident command procedures used during a mass casualty incident.
B. Staging Sector Officer 1. Selects location 2. Receives requests from incident commander 3. Makes assignments	Describe the responsibilities of the staging sector officer operating under incident command procedures at the scene of a mass casualty.	Supply the personnel, equipment, and vehicle needs of various sectors at the scene of a simulated mass casualty.

TASK NUMBER: K-6 Establish staging area (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
C. Staging Sector Requirements 1. Safety 2. Accessibility 3. Identifiable 4. Record keeping facilities 5. Effective communication	Describe the requirements of an effective staging area at the scene of a mass casualty.	Set up a functional staging area at the scene of a simulated mass casualty.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Coordinate Mass Casualty Incident

TASK NUMBER: K-7 Request equipment and personnel

COMPETENCY: Utilize incident command procedures to request equipment and personnel as needed.

COURSE NUMBERS: EMS 156 EMS 256

EVALUATIVE CRITERION: Determine need for and request equipment and personnel according to incident command procedure.

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Incident Command Procedure 1. Chain of command a. incident commander b. sector officers c. sector personnel	Describe the chain of command as prescribed by incident command procedure.	Follow chain of command procedures while functioning at the scene of a simulated mass casualty.
2. Requests for equipment and supplies a. sector officer to command b. exceptions 1) local protocol 2) transportation officer to staging officer	Describe the protocol for requesting equipment and personnel as prescribed by incident command procedures.	Make appropriate requests for equipment and supplies according to protocol while functioning as sector officer at a simulated mass casualty.

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Coordinate Mass Casualty Incident

TASK NUMBER: K-8 Coordinate patient transport

COMPETENCY: Utilize incident command procedures to coordinate patient transport to emergency care facilities.

COURSE NUMBERS: EMS 156 EMS 256

EVALUATIVE CRITERION: Coordinate an orderly transfer of victims of a mass casualty from the scene to appropriate treatment facilities.

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Transportation Sector 1. Location a. near treatment sector b. easy egress	Describe the requirements of a transportation sector.	Locate a functional transportation sector at the scene of a simulated mass casualty
2. Transportation vehicles a. ambulances b. helicopters c. private	Describe the types of vehicles used to transport patients from the scene of a mass casualty	Assess transportation vehicle needs at the scene of a simulated mass casualty.
Transportation Sector Officer 1. Determines transportation needs 2. Notifies hospitals 3. Coordinates patient allocation to hospitals	Describe the responsibilities of the individual who has jurisdiction over the transportation of victims of a mass casualty to treatment facilities.	Provide transportation to appropriate care facilities to the victims of a mass casualty.

TASK NUMBER: K-8 Coordinate patient transport (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
4. Coordinates activities with treatment sector officer		
5. Requests vehicles directly from staging sector officer		
6. Arranges transportation		

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Coordinate Mass Casualty Incident

TASK NUMBER: K-9 Coordinate perimeter security and scene safety

COMPETENCY: Utilize incident command procedures to control access and ensure safety at the mass casualty scene.

COURSE NUMBERS: EMS 156

EVALUATIVE CRITERION: Ensure safety of individuals at the scene of a mass casualty.

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Safety Concerns 1. Rescue personnel 2. Victims 3. Bystanders	Describe safety concerns at the scene of a mass casualty.	Identify safety concerns in a simulated mass casualty incident.
B. Security Concerns 1. Victim privacy 2. Bodies 3. Victims' possessions 4. Preservation of evidence 5. Medical and rescue equipment	Describe security concerns at the scene of a mass casualty.	Identify security concerns in a simulated mass casualty incident.
C. Safety Officer 1. Assess hazards of situation	Describe procedures which can be utilized to assess safety hazards in a mass casualty situation.	Function in the role of safety officer during a simulated mass casualty incident.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: K-9 Coordinate perimeter security and scene safety (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
2. Monitor hazardous situations	Describe procedures which can be utilized to monitor hazardous situations during a mass casualty incident.	
3. Ensure personnel safety	Describe measures which can be employed to ensure the safety of personnel involved in a mass casualty incident.	
4. Control access to scene	Describe measures which can be employed to control access to the scene of a mass casualty.	

EMERGENCY MEDICAL SCIENCE (T-139)

SUBJECT AREA: Coordinate Mass Casualty Incident

TASK NUMBER: K-10 Critique Incident

COMPETENCY: Utilize techniques of evaluation to critique a mass casualty incident.

COURSE NUMBERS: EMS 156 EMS 256 ENG 271

EVALUATIVE CRITERION: Evaluate critically a mass casualty incident.

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
A. Involvement 1. Incident commander 2. Section officers 3. Section personnel 4. Reviewers in the case of drill	Describe the makeup of the critique team.	Identify appropriate personnel to participate in a critique of a mass casualty
B. Areas of Critique		
1. Notification a. communications center b. personnel c. hospitals	Describe techniques that can be utilized in a critique of the notification system employed in a mass casualty incident.	Perform an accurate and appropriate critique of the notification system employed during a simulated mass casualty incident.
2. Command a. establishment b. transfer c. command center d. section command	Describe techniques that can be utilized in a critique of the incident command structure employed in a mass casualty incident.	Perform an accurate and appropriate critique of the incident command structure employed during a simulated mass casualty incident.

EMERGENCY MEDICAL SCIENCE (T-139)

TASK NUMBER: K-10 Critique Incident (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
3. Triage	Describe techniques that can be utilized in a critique of the system of triage employed in a mass casualty incident.	Perform an accurate and appropriate critique of the system of triage employed during a simulated mass casualty incident.
4. Treatment	Describe techniques that can be utilized in a critique of the treatment procedures and processes employed in a mass casualty incident.	Perform an accurate and appropriate critique of the treatment procedures and processes employed during a simulated mass casualty incident.
5. Staging	Describe techniques that can be utilized in a critique of the staging procedures employed in a mass casualty incident.	Perform an accurate and appropriate critique of the staging procedures employed during a simulated mass casualty incident.
6. Transportation	Describe techniques that can be utilized in a critique of the transportation system employed in a mass casualty incident.	Perform an accurate and appropriate critique of the transportation system employed during a simulated mass casualty incident.

TASK NUMBER: K-10 Critique incident (continued)

INSTRUCTIONAL CONTENT	LEARNER ACTIVITIES	OUTCOME COMPETENCY
7. Resources a. equipment b. vehicles c. supplies d. personnel	Describe techniques that can be utilized in a critique resources available during a mass casualty incident.	Perform an accurate and appropriate critique of the resource availability during a simulated mass casualty incident.
8. Security and safety	Describe techniques that can be utilized in a critique of the safety and security system employed in a mass casualty incident.	Perform an accurate and appropriate critique of the safety and security system employed during a simulated mass casualty incident.
9. Communications a. interagency b. command center c. section officers d. intersectional e. hospitals	Describe techniques that can be utilized in a critique of the communications system and procedures employed in a mass casualty incident.	Perform an accurate and appropriate critique of the communication system and procedures employed during a simulated mass casualty incident.

CHAPTER IV

Chapter IV

THE EMERGENCY MEDICAL SCIENCE CURRICULUM

This chapter contains the curriculum standard and a curriculum model for that standard. Course descriptions and course outlines for courses in the curriculum model are also included.

Curriculum Standard

Curriculum standards establish a degree of consistency among programs in the community college system. For programs with identical titles and codes, the curriculum standard provides the curriculum description and the range of credit hour requirements in the major, related courses, general education, electives, and work experience. It lists job titles appropriate to the curriculum. It also specifies the minimum percentage of credits which must be awarded as class credits and indicates the appropriate award for completion of the curriculum. Programs at individual institutions must fall within the criteria established by the standard, but the standard is not meant to create identical programs at institutions throughout the community college system. Rather the standard is a guide which, while establishing consistency, allows for institutional flexibility.

The standard for Emergency Medical Science (T-139) begins on page 241

State Board of Community Colleges
Approval: September 12, 1991

State Board of Community Colleges
North Carolina Department of Community Colleges
Raleigh, North Carolina

PROGRAM AREA

HEALTH OCCUPATIONS

CURRICULUM CODE & TITLE

Emergency Medical Science (T-139)

CURRICULUM DESCRIPTION

The Emergency Medical Science Curriculum is designed to prepare graduates to provide emergency care under medical command authority to acutely ill or injured patients. Students will acquire basic and advanced life support knowledge and skills through a combination of classroom instruction, practical laboratory sessions, and clinical experience in hospitals and with emergency medical service providers.

As students progress through the curriculum, they become eligible to take certifying examinations for the emergency medical technician (EMT), EMT-defibrillator (EMT-D), EMT-intermediate (EMT-I), EMT-advanced intermediate (EMT-AI), and EMT-paramedic (EMT-P) given by the North Carolina Office of Emergency Medical Services and the EMT, EMT-I, and EMT-P examinations of the National Registry of Emergency Medical Technicians.

Graduates may be employed by ambulance, rescue, or aeromedical services, in specialty areas of hospitals, and by industry, educational institutions, and governmental agencies.

Individuals seeking a career in emergency medical science benefit from a background in biology, chemistry, and mathematics. Strong written and verbal communication skills are additional assets which benefit students.

JOB OPPORTUNITIES

Emergency Medical Technician
Emergency Medical Technician-Defibrillator
Emergency Medical Technician-Intermediate
Emergency Medical Technician-Advanced Intermediate
Emergency Medical Technician-Paramedic
Emergency Medical Services Trainer/Administrator

CURRICULUM STANDARDS

Subject Categories	MINIMUM/MAXIMUM RANGE OF QUARTER HOUR CREDITS			
	Degree	Advanced Diploma	Diploma	Certificate
TECHNICAL/VOCATIONAL (MAJOR) Those courses that are absolutely essential for a person to learn in order to perform the job for which being prepared. (Courses designated as technical electives or specialty electives should be included in major.)	75-83			
RELATED Those courses which are essential as supporting enriching or foundation-building courses for a given curriculum or group of curriculums. These courses are usually taught by other departments and/or have course prefix different from the major course prefix.	21-32			
GENERAL EDUCATION Graduates from a technical curriculum should have at least 18 quarter hour credits in the areas of English, social science, and/or humanities (NCAC 2E.0203(b)(6)(B). Graduates from a vocational curriculum should have at least six quarter hour credits in one or more areas of communications skills, applied sciences, and applied social studies. (NCAC 2E.0203(b)(8)(B).	18-30			
ELECTIVES These are free electives to the student. Required or identified electives should be placed in related, general education or major course area most appropriate to the course.	3-15			
WORK EXPERIENCE (2E.0104(4) ...Work experience involves the development of job skills by providing the student with an employment situation that is directly related to, and coordinated with, the educational program. Student activity in work experience is planned and coordinated by an institutional representative and the employer with control and supervision of the student on the job being the responsibility of the employer. (NCAC 2E.0104(b)(4)	0-12			
RANGE OF QUARTER HOUR CREDITS Quarter hour credits for each curriculum will be established at a minimum with a maximum being no more than 10 percent above the minimum. (NCAC 2E.0203(b)(3)&(4) MIN. MAX.	 117 129			
MINIMUM PERCENTAGE OF QHC AWARDED AS CLASS QH CREDITS Total quarter hour credits equated to classroom or lecture divided by total quarter hour credits required to complete the curriculum. (NCAC 2E.0203(b)(10)(C)	65			
APPROVED FOR AWARDING 96 quarter hour credits minimum required for AAS (NCAC 2E.0203(b)(3) 64 quarter hour credits minimum required for Diploma (NCAC 2E.0203(b)(4) 16 quarter hour credits minimum required for Certificate Curriculum (NCAC 2E.0203(b)(5)	AAS 280			

Curriculum Model

A curriculum model is a suggested listing and sequencing of courses which meet the criteria established in the curriculum standard for a particular program title. The model presented here is for the awarding of the associate degree upon completion and was developed by the Advisory Board following approval of the curriculum standard. This model should serve as a guide in the implementation or revision of Emergency Medical Science programs.

The design of the curriculum took into consideration the possibility of a move by the Community College System, at some time in the future, from the quarter system to semesters. Should this occur, administrators and faculty of Emergency Medical Science programs will find that this curriculum model is readily convertible to the semester system.

This curriculum model is designed for the education of the EMT-paramedic and is seven quarters in length. However, as students pass through the curriculum they become eligible to take examinations at progressively higher levels of EMT certification beginning with the basic EMT examination at the completion of the first quarter.

Suggested course descriptions and course outlines are included for all courses in the curriculum model. These course descriptions also contain course hour requirements, prerequisites and corequisites, general course objectives, titles of suggested texts, and suggested evaluation criteria. They are presented as guides. The instructor using this manual should adapt this material to accommodate the needs of a particular locale or job market.

Development of courses should incorporate the material from the task analysis/course correlation charts in Chapter III.

CURRICULUM MODEL

EMERGENCY MEDICAL SCIENCE (T-138)
CURRICULUM MODEL

Suggested Curriculum by Subject Categories

				Credits
	Technical (Major)		75-83 hours	
EMS	151	Fundamentals of EMS		5
EMS	152	Basic EMT Skills		4
EMS	153	EMT-Intermediate Skills		9
EMS	154	Basic Pharmacology		5
EMS	155	Management of Medical Emergencies		5
EMS	156	Rescue Scene Management		6
EMS	157	Cardiology		6
EMS	254	Advanced Pharmacology		5
EMS	255	Management of Trauma		6
EMS	256	Emergency Vehicle Operations, Communications, & Record Keeping		5
EMS	257	Life Span Emergencies		6
EMS	258	Law and Ethics		5
EMS	259	Seminar		3
EMS	161	Clinical Practicum I		1
EMS	162	Clinical Practicum II		2
EMS	263	Clinical Practicum III		2
				75
	Related		21-32 hours	
BIO	160	Anatomy and Physiology I		6
BIO	161	Anatomy and Physiology II		6
CAS	160	Introduction to Microcomputers		5
BUS	260	Personnel Management and Finance		5
				22
	General Education		18-30 hours	
PSY	160	Introduction to Psychology		5
MAT	170	College Algebra		5
ENG	170	English Composition		5
ENG	271	Oral Communications		5
		Humanities Elective		5
				25
	Electives		3-15 hours	
	Elective			5
				5
	Work Experience		0-12	
* EMS	171	Field Internship I		0.5
* EMS	172	Field Internship II		0.5
EMS	273	Field Internship III		1.0
				2.0
	Total Quarter Hour Credits			129

*5 1/2 week course

EMERGENCY MEDICAL SCIENCE (T -138)

CURRICULUM MODEL

Suggested Curriculum by Quarters

First Quarter

Course	Title	Class	Lab	Clinical	Work Exp.	Credit Hours
EMS 151	Fundamentals of EMS	4	2	0	0	5
EMS 152	Basic EMT Skills	1	6	0	0	4
BIO 160	Anatomy & Physiology I	5	2	0	0	6
MAT 170	College Algebra	5	0		0	5
						20

Second Quarter

Course	Title	Class	Lab	Clinical	Work Exp.	Credit Hours
EMS 153	EMT-Intermediate Skills	6	6	0	0	9
EMS 161	Clinical Practicum I	0	0	3	0	1
EMS 171	Field Internship I	0	0	0	10	0.5*
BIO 161	Anatomy & Physiology II	5	2	0	0	6
ENG 170	English Composition	5	0	0	0	5
						21.5

* 5 1/2 week course

Third Quarter

Course	Title	Class	Lab	Clinical	Work Exp.	Credit Hours
EMS 154	Basic Pharmacology	4	2	0	0	5
EMS 155	Management of Medical Emergencies	4	0	3	0	5
PSY 160	Introduction to Psychology	5	0	0	0	5
EMS 156	Rescue Scene Management	4	4	0	0	6
						21

Fourth Quarter

Course	Title	Class	Lab	Clinical	Work Exp.	Credit Hours
EMS 157	Cardiology	5	2	0	0	6
EMS 254	Advanced Pharmacology	5	0	0	0	5
EMS 162	Clinical Practicum II	0	0	6	0	2
EMS 172	Field Internship II	0	0	0	10	0.5*
						13.5

* 5 1/2 week course

Fifth Quarter

Course	Title	Class	Lab	Clinical	Work Exp.	Credit Hours
EMS 255	Management of Trauma	4	2	3	0	6
EMS 256	Emergency Vehicle Operations, Communications, & Record Keeping	4	2	0	0	5
ENG 271	Oral Communications	5	0	0	0	5
CAS 160	Introduction to Microcomputers	3	4	0	0	5
						21

Sixth Quarter

EMS 257	Life Span Emergencies	4	2	3	0	6
EMS 258	Law and Ethics	5	0	0	0	5
	Humanities Elective	5	0	0	0	5
						16

Seventh Quarter

EMS 259	Seminar	3	0	0	0	3
EMS 263	Clinical Practicum III	0	0	6	0	2
EMS 273	Field Internship III	0	0	0	10	1
BUS 260	Personnel Management & Finance	5	0	0	0	5
	Elective	5	0	0	0	5
						16

EMS 151
Fundamentals of Emergency Medical Science

Course Description:

This course is an introduction to emergency medical service. Basic emergency life support including assessment and care of traumatic and medical emergencies and patient stabilization are included.

Quarter Hour Credit: 5
Hours Per Week: 4 class 2 lab
Prerequisites: None
Corequisites: EMS 152

Course Objectives:

- To provide the student with an understanding of the role and responsibilities of the first responder and other members of the prehospital emergency medical care team.
- To enable the student to recognize the nature and seriousness of a patient's condition and assess the requirements for emergency care.
- To enable the student to provide basic life support and other appropriate emergency care.

Suggested Texts:

Grant, H., Murray, R., Jr., & Bergeron, J. (1990). Emergency Care (5th ed.). Englewood Cliffs, NJ: Brady.

Emergency Care and Transportation of the Sick and Injured (4th ed.) American Academy of Orthopedics, 1990.

Evaluation:

Class Examinations: 80%
Final Examination: 20%

EMS 151
Fundamentals of Emergency Medical Science
Course Outline

- Introduction to EMS
- Legal Aspects of EMS
- Body Systems
- Basic Life Support
- One Person CPR
- Two Person
- Infant CPR
- Obstructed Airway
- Patient Assessment
- Primary and Secondary Assessment
- Vital Signs
- Control of Bleeding
- Control of Shock
- Injuries to Soft Tissues
- Injuries to Extremities
- Injuries to Skull, Spine
- Injuries to Chest, Abdomen
- Medical Emergencies
  - Coronary Artery Disease
  - Angina Pectoris
  - Acute Myocardial Infarction
  - Congestive Heart Failure
  - Respiratory Disorders
  - Chronic Obstructive Pulmonary Disease
  - Asthma
  - Hyperventilation
  - Diabetic Coma
  - Insulin Shock
  - Seizures
  - Acute Abdominal Distress
  - Poisoning and Drug Abuse
- Environmental Emergencies

Burns/Hazardous Materials
Special Needs Patients
    Handicapped
    Geriatric Patient
Childbirth
Pediatric Emergencies
Behavioral Emergencies

EMS 152
Basic EMT Skills

Course Description:

This course emphasizes the fundamental cognitive and manipulative skills common to the assessment and basic emergency care of the ill and injured patient. Common equipment found on ambulances is utilized. Principles underlying the use of emergency equipment in the evaluation and treatment of emergent problems is emphasized.

Quarter Hour Credit:	4	
Hours Per Week:	1 class	6 lab
Prerequisites:	EMS 151	
Corequisites:	None	

Course Objectives:

To provide the student, through practice, with the skills necessary to:

- complete an initial patient assessment and identify, record, and report diagnostic signs and symptoms;
- demonstrate on a mannikin the current American Heart Association sequences for CPR and obstructed airway on adults and infants;
- maintain an adequate airway in a patient with and without airway adjuncts;
- demonstrate proficiency in controlling bleeding, treating shock, and dressing and bandaging wounds;
- demonstrate the proper immobilization techniques for fractures and dislocations;
- demonstrate on a mannikin the proper pre-delivery preparation of the mother and the steps involved in the delivery of a baby and the placenta;

- demonstrate the techniques of gaining access to and removing entrapped or entangled patients;
- participate in all aspects of an emergency ambulance response including vehicle operation, scene control, radio communication and, recording and reporting an emergency call.

Suggested Texts:

Grant, H., Murray, R., Jr., & Bergeron, J. (1990). *Emergency Care* (5th ed.). Englewood Cliffs, NJ: Brady.

Emergency Care and Transportation of the Sick and Injured (4th ed.) American Academy of Orthopedics, 1990.

Evaluation:

Practical Examinations:	90%
Final Examination:	10%

Attendance:

This course, in conjunction with EMS 152, is designed to meet the requirements of the NC Office of EMS for EMT certification. As such, class attendance is required if the student wishes to be approved as having met the requirements necessary to take the EMT examination at the state and/or national level. Class work missed for excused absences must be made up.

Clinical Experience:

According to North Carolina and National Registry EMT certification requirements, each candidate must complete a 10 hour clinical observation in a hospital emergency room. Objectives for the clinical observation are included with this syllabus.

EMS 152
Basic EMT Skills
Course Outline

Orientation to the Course
The Role of the EMT
Airway Adjuncts, Auscultation
Suction Therapy
Oxygen Therapy
Two Person CPR, Review of One Person & Infant CPR
Child & Moving CPR
Vital Signs Practice
Patient Assessment - Interviewing
Assessment Practice with Vital Signs & Interviewing
Assessment Practice with Reporting
Splinting - Upper Extremities
Splinting - Lower Extremities
MAST
Care of Specific Wounds
Care of Spinal Injuries
Lifting and Moving Patients
Long boards, Short Boards and Extrication Devices
Preparation, Response, Triage, and Transport
Extrication
Multiple Patient and Disaster Management
Childbirth Practice

EMS 152
Basic EMT Skills
Clinical Observation Objectives

Based on experience gained in the simulation laboratory and with the approval of and under the direction of Emergency Department personnel, the student should be able to:

1. Reçognize the acute vs. the non-acute patient by signs and symptoms.
2. Obtain and report a brief, chief complaint oriented patient history from the patient or pertinent others.
3. Accurately obtain, report and record vital signs including level of consciousness, BP, pulse, respirations, pupillary reaction and skin condition.
4. Demonstrate a knowledge of basic medical terminology in all of the above.
5. Perform CPR or any of its components as directed.
6. Establish and maintain an airway, including the use of suctioning, as directed.
7. Administer oxygen by nasal cannula or face mask as directed.
8. Move and transport patients throughout the hospital as directed.
9. Assist in the treatment of fractures and wounds as directed.
10. Observe a natural childbirth.
11. Provide psychological support to the patient and patient's relatives and friends as required.
12. Observe and/or assist with any other basic emergency of non-emergency procedure in the medical or trauma patient as directed by emergency department staff.

13. Assist in the maintenance of safe, clean, orderly environment by cleaning and restocking rooms and remaking beds.

Due to the brief time each student spends in the clinical facility and the patient population during this time, all students may not complete all of the above objectives through observation or assistance. However, as many as possible should be completed by the student.

EMS 153
EMT-Intermediate Skills

Course Description:

This course is designed to teach the knowledge and skills needed for the safe administration of intravenous solutions, placement and use of the esophageal obturator airway, and the use of semi-automatic defibrillators.

Quarter Hour Credit:	9
Hours Per Week:	6 class 6 lab
Prerequisites:	EMS 152, BIO 160
Corequisites:	BIO 161, EMS 161, EMS 171

Course Objectives:

At the conclusion of this course the student should be able to:

- Explain the pathophysiology of shock.
- Establish and maintain peripheral venous access.
- Demonstrate the proper use of the semi-automatic defibrillator and esophageal obturator airway.

Suggested Texts:

Blesdoe, B.E., Porter, R. S., Shade, B. R. (1991). Paramedic Emergency Care. Englewood Cliffs, NJ: Brady, 1991.

Caroline, N. L. (1987). Emergency Care in the Streets (3rd ed.). Boston: Little, Brown.

Caroline, N. L. (1987). Emergency Medical Treatment: A Text for EMT-As and EMT-Intermediates (2nd ed.). Boston: Little Brown.

Evaluation:

Class Examinations:	40%
Practical Examinations:	40%
Final Examination:	20%

EMS 153
EMT-Intermediate Skills
Course Outline

- Pathophysiology of Shock
  - Fluids and Electrolytes
  - Acid Base Balance
  - Shock
    - Perfusion
    - Oxygen transport
    - Types of shock
    - Stages of shock
    - Assessment of shock patient
    - Management of the shock patient
- Intravenous Therapy
  - Indications and Contraindications
  - Technique
  - Complications
  - Flow Rates
- Esophageal Obturator Airway
  - Indications and Contraindications
  - Insertion
- Semi-Automatic Defibrillation
  - Indications and Contraindications
  - Procedure
- Clinical Experience
  - Patient Assessment
  - Respiratory Care
  - Cardiac Care
  - Intravenous Therapy

EMS 154
Basic Pharmacology

Course Description:

This course is an introduction to the fundamental principles of pharmacology, including weights and measures, drug legislation and drug administration. Drug groups are presented through the use of prototype agents.

Quarter Hour Credit: 5
Hours Per Week: 5 Class
Prerequisites: BIO 160-161, EMS 153
Corequisites: None

Course Objectives:

- To acquaint the student with the major drug groups and their effect on the body.
- To provide an understanding of the mechanisms of action of drug groups.
- To examine the methods of drug administration.
- To provide an understanding of drug side effects.
- To provide an understanding of drug interactions.
- To provide an understanding of drug doses and the calculations necessary to achieve these doses.

Suggested Texts:

Hitner, H. & Nagle, B. T. (1987). Basic Pharmacology for Health Occupations. Mission Hills, CA: Glencoe Publishing, 1987.

Daniels, J. M. & Smith, L. M.(1990). Clinical Calculations (2nd ed.). Delmar Publishers.

Evaluation:

Class Examinations: 80%
Final Examination: 20%

EMS 154
Basic Pharmacology
Course Outline

- Math pre-test
- Introduction to pharmacology
- Drug nomenclature
- Drug sources
- Drug legislation and standards
- Drug forms
- Weights and Measures
- Basic Math Review
- Drug doses and calculations
- Drug Administration
  - Local and systemic
  - Modes of administration
- Pharmacodynamics and Pharmacokinetics
- Introduction to Autonomic Pharmacology
- Cholinoceptor Activating and Blocking Drugs
- Adrenoceptor Activating and Blocking Drugs
- Cardiovascular-Renal Drugs
  - Antidysrhythmics
  - Drugs used to treat angina and CHF
  - Anticoagulants
  - Antihypertensives
- Drugs with Action on Smooth Muscle
- Introduction to CNS Drugs
  - Narcotics
  - Sedative-Hypnotics
  - Anti-epileptic Drugs
- Anesthetics and Skeletal Muscle Relaxants
- Antipsychotic and Antidepressant Agents
- Drugs that affect the GI Tract
- Alcohol and Other Drugs of Abuse

Endocrine Drugs
Principles of Antimicrobial Drug Action
Over the Counter Drugs

EMS 155
Management of Medical Emergencies

Course Description:

This course focuses on the assessment and management of medical emergencies including central nervous system and behavioral disorders, diabetic emergencies, exposure to environmental extremes, substance abuse, poisoning, acute abdomen, genito-urinary problems, and infectious diseases. A clinical component is included.

Quarter Hour Credit:	5
Hours Per Week:	4 class 3 clinical
Prerequisites:	EMS 153, BIO 160-161
Corequisites:	EMS 154

Course Objectives:

- To provide an understanding of the physiology and pathophysiology of the most frequently encountered medical emergencies.
- To provide the knowledge necessary for the learner to make an accurate assessment and diagnosis of patients in medical emergencies.
- To insure that the learner understands proper sequence of treatment for medical emergencies and is proficient in the skills necessary to administer such treatment.
- To provide clinical experience with patients with medical emergencies.

Suggested Texts:

Mills, J. Ho, M. T. Sabler, P. R. & Trunkey, D. D. (eds.) (1990). Current Emergency Diagnosis and Treatment (3rd ed.). East Norwalk, CT: Lange.

Blesdoe, B.E., Porter, R. S., Shade, B. R. (1991). Paramedic Emergency Care. Englewood Cliffs, NJ: Brady, 1991.

Caroline, N. L. (1987). Emergency Care in the Streets (3rd ed.). Boston: Little, Brown.

Evaluation:

Class Examinations:	50%
Clinical Experience:	30%
Final Examination:	20%

EMS 155

Management of Medical Emergencies
Outline

- CNS Disorders
  - Coma
  - Acute Confusional States
  - Stroke
  - Syncope
  - Seizures
  - Acute Anxiety Reactions
  - Acute Headache
- Diabetic Emergencies
  - Diabetic Ketoacidosis
  - Hypoglycemia
- Substance Abuse
  - Alcohol
  - Illegal Drug Abuse
  - Legal Drug Toxicity
  - Bites
- Poisoning
  - Ingested
  - Inhaled
  - Absorbed
- Environmental Emergencies
  - Marine Injuries
  - Heat Disorders
  - Cold Disorders
  - Radiation Injury
  - Lightning
  - Altitude Sickness
- Cardiovascular Emergencies
  - Congestive Heart Failure
  - Hypertensive Crisis

  - Aneurysm
  - Acute Chest Pain
- Respiratory Emergencies
  - Pulmonary Embolus
  - Hyperventilation
  - Acute Dyspnea
  - Obstructive Airway Disease
- Gastrointestinal Emergencies
  - GI Bleed
  - Intestinal Obstruction
  - Cholecystitis
  - Appendicitis
  - Diverticulitis
  - Hiatal Hernia
  - Abdominal Aortic Aneurysm
  - Hernias
  - Acute Abdomen
- Other Emergencies
  - Anaphalyxis
  - Endocrine Emergencies
  - Genitourinary Emergencies
  - Infectious Diseases
- Behavioral Emergencies
- Depression
  - Suicide
  - Anxiety Disorders
  - Manic Disorders
  - Schizophrenia

EMS 156
Rescue Scene Management

Course Description:

This course introduces the student to the basic principles of rescue and includes practice in the skills of water rescue, rescue from heights, rescue from depths, vehicle extrication, and handling hazardous materials situations. Incident command structure in mass casualty situations is included.

Quarter Hour Credit:	6
Hours Per Week:	4 class 4 lab
Prerequisites:	Permission of Instructor
Corequisites:	None

Course Objectives:

Upon completion of this course the student should be able to:

- Understand the phases of a rescue.
- Understand the hazards and safety considerations associated with a rescue.
- Understand the functioning of incident command in a mass casualty situation.
- Have skills in gaining access, removal and transporting the trauma patient from a variety of situations so the learner is capable of being an attending paramedic on a rescue team.

Suggested Texts:

Moore, R.E (1991). Vehicle Rescue and Extrication. St. Louis: Mosby.

Bronstein, A. C. & Currance, P. L. (1988). Emergency Care for Hazardous Materials Exposure. St. Louis: Mosby.

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Basic Rescue and Emergency Care (1990). American Academy of Orthopedic Surgeons.

Evaluation:

Class Examinations:	80%
Final Examination:	20%

EMS 156
Rescue Scene Management
Course Outline

- Safety
  - Personal Safety
  - Patient Safety
  - Safety Procedures
- Rescue Operation
  - Preplanning
  - Phases of a Rescue
    - Assessment
    - Access
    - Emergency Care
    - Disentanglement
    - Removal
    - Transport
- Rescue Equipment
  - Access and Disentanglement Tools
  - Vehicles
  - Support Equipment
  - Ropes and Knots
- Rappelling and Climbing
  - Terminology
  - Commands
  - Rappelling Techniques
  - Climbing Techniques
- Casualty Handling
  - Lifts
  - Carrying a Stretcher
  - Blanketing a Stretcher
  - Lashing a Stretcher
  - Lashing a Stokes Basket
- Rescue from Heights
  - Vertical Lowers
  - Horizontial Lowers

  - Lowering With a Life Basket
  - Ladders
- Water Rescue
  - Reach and Pull
  - Row, Throw, Go
  - Possible Spinal Injury
- Rescue from Depths
  - Trench Rescue
  - Caves
  - Sewers
- Vehicle Extrication
  - Vehicle Stabilization
  - Glass
  - Doors and Locks
  - Steering Wheel and Column
  - Roof Removal
  - Seat and Seat Belt Removal
- Hazardous Materials Management
  - Combustible Materials
  - Explosive Materials
  - Radioactive Materials
  - Corrosive Materials
  - Toxic Materials
- Incident Command System

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EMS 157
Cardiology

Course Description:

This course introduces the student to the principles of cardiac monitoring, the recognition and management of basic dysrhythmias, and the pathophysiology, assessment, and treatment of cardiac emergencies.

Quarter Hour Credit: 6
Hours Per Week: 5 class 2 lab
Prerequisites: EMS 154, EMS 155
Corequisites: EMS 254, EMS 162, EMS 172

Course Objectives:

At the completion of the course the student should:

- have a thorough understanding of the electrical and mechanical activity of the heart.
- understand the basic principles of electrocardiography.
- be able to interpret and render appropriate treatment for the basic cardiac dysrhythmias.
- have a working knowledge of the pathophysiology of heart disease and its clinical manifestations
- be able to assess and treat patients with cardiovascular emergencies.
- be able to understand the theoretical concepts and correctly perform defibrillation, synchronized cardioversion, carotid sinus massage and other techniques as may be appropriate for the paramedic.

Suggested Texts:

The Only EKG Book You'll Ever Need, Malcom S. Thaler, M.D., J.B. Lippencott, 1988.

EKG Workout: Exercises in Arrhythmia Interpretation, J. Huff et al., Lippincott, 1985.

Textbook of Advanced Cardiac Life Support, American Heart Association, 1987.

Emergency Care in the Streets, 3rd ed., Nancy Caroline, M.D. Little, Brown and Co., 1987.

Paramedic Emergency Care, B.E. Blesdoe, R.S. Porter, B.R. Shade, Brady, Englewood Cliffs, NJ, 1991.

Evaluation:

Class Examinations: 80%
Final Examination: 20%

EMS 157

Cardiology
Course Outline

- Anatomy and Physiology of the Cardiovascular System
  - Anatomy of the Heart
  - Anatomy of the Peripheral Circulatory System
  - Physiology of the Heart
  - Electrophysiology (Basics)
- Assessment of the Cardiac Patient
  - Common Chief Complaints and History
  - Significant Past Medical History
  - Physical Examination Pertinent to the Cardiac Patient
- Dysrhythmia Recognition
  - Introduction to ECG Monitoring
  - Rhythm Strip Analysis
  - Introduction to Dysrhythmias
  - Dysrhythmias Originating in the SA Node
  - Dysrhythmias Originating in the Atria
  - Dysrhythmias originating in the AV Junction
  - Dysrhythmias originating in the Ventricles
  - Dysrhythmias that are Disorders in Conduction
- Techniques of Management
  - CPR
  - ECG Monitoring
  - Precordial Thump
  - Defibrillation
  - Emergency Synchronized Cardioversion
  - Carotid Massage (optional content)
  - Intracardiac Injections (optional content)
  - Mechanical CPR Devices (optional content)
- Pathophysiologies and Management
  - Coronary Artery Disease
  - Angina
  - Acute Myocardial Infarction
  - Cardiogenic Shock
  - Cardiac Arrest

EMS 254
Advanced Pharmacology

Course Description:

This course focuses on drugs which the EMT-paramedic uses in emergency situations and the types of medications the patient may be taking by prescription.

Quarter Hour Credit:	5
Hours Per Week:	5 class
Prerequisites:	EMS 154
Corequisites:	None

Course Objectives:

At the completion of this course the student should be able to:

- Provide generic and trade names;
- Provide dosages and routes of administration;
- Provide actions, indications and contraindications;
- Provide side effects for the drugs on the EMT-paramedic mandatory and optional formulary.

Suggested Texts:

Nurse Pharmacology and Drug Therapy, M. Shalfer and E. Marieb, Addison Wesley,

Paramedic Emergency Care, B.E. Blesdoe, R.S. Porter, B.R. Shade, Brady, Englewood Cliffs, NJ, 1991.

Evaluation:

Class Examinations:	80%
Final Examination:	20%

EMS 254
Advanced Pharmacology
Course Outline

- The Role of the Paramedic in Drug Therapy
- The Paramedic Formulary
  - I.V. SOLUTIONS
    - D5W 250cc or 500cc
    - Lactated Ringers 1000cc
    - Normal Saline 1000cc
    - D5 Lactated Ringers
    - D5 1/2 Normal Saline
    - D5 1/4 Normal Saline
    - D10 Water
    - D5 Normal Saline
  - ACLS DRUGS
    - Adenosine
    - Atropine
    - Bretylium
    - Calcium Chloride/Gluconate
    - Dextrose
    - Dobutamine
    - Dopamine
    - Epinephrine
    - Isoproterenol
    - Lidocaine
    - NaCl Injection
    - Nifedipine
    - Nitroglycerin
    - Procainamide
    - Propranolol
    - Sodium Bicarbonate
    - Verapamil

ANESTHETICS

- Lidocaine 1% or 2%
- Procaine 1% or 2%

FLUID AND RESPIRATORY AGENTS

- Albuterol
- Aminophylline
- Furosemide
- Isoetharine
- Metaproterenol
- Racemic Epinephrine
- Terbutaline (Injectable or Inhaler)

ANALGESICS

- Meperidine (Demerol)
- Morphine Sulfate
- Nalbuphine Hydrochloride
- Nitrous Oxide

OTHER DRUGS

- Diazepam (Valium) Injectable
- Diphenhydramine (Benadryl) Injectable
- Dextrose - 50%
- Glucagon (Intramuscular or Subcutaneous)
- I.V. steroid preparations such as Solu-Medrol and Decadron
- Mannitol
- Naloxone (Narcan) Injectable
- Phenytoin (Dilantin) Injectable
- Promethazine (Phernergan)
- Syrup of Ipecac
- Thiamine (Intramuscular or Intravenously)

INTERHOSPITAL TRANSFER DRUGS

- Antibiotics I.V.
- Blood and Components I.V.
- Heparin Drip I.V.
- Nitroglycerin Drip I.V.
- Potassium Chloride
- Urokinase

    - Streptokinase
    - Tissue Plasminogen Activator
- Patient Prescription Drugs
  - Commonly Prescribed Digitalis Preparations
  - Commonly Prescribed Nitrates
  - Commonly Prescribed Antiarrhythmics
  - Commonly Prescribed Diuretics
  - Commonly Prescribed Antihypertensive Agents
  - Commonly Prescribed Brochodilators
  - Commonly Prescribed Oral Hypoglycemic Agents
  - Commonly Prescribed Anticonvulsants
  - Commonly Prescribed Antidepressants
  - Commonly Prescribed Antiphychotic Agents
  - Commonly Prescribed Tranquilizers

EMS 255
Management of Trauma

Course Description:

This course includes the assessment and management of trauma emergencies. Included are the kinematics of injury and principles of triage.

Quarter Hour Credit: 6
Hours Per Week: 4 class 2 lab 3 clinical
Prerequisites: EMS 161, EMS 171, EMS 254
Corequisites: None

Course Objectives:

- To provide a description of the physiology, pathophysiology and kinematics of skeletal and soft tissue injury.
- To advance the student's knowledge of assessment and diagnostic skills.
- To establish skill in the management of the multi-system trauma patient.
- To learn the principles of triage.
- To learn to operate under standing orders and the legal and medical implications of such patient care.
- To acquaint students with current research, issues and controversies in trauma management.

Suggested Texts:

Pre-Hospital Trauma Life Support, A.M. Butman and J.L. Paturas, Editors, Emergency Training, Akron, Ohio, 1991.

Basic Trauma Life Support, 2nd ed., J.E. Campbell, Brady, 1990.

Paramedic Emergency Care, B.E. Blesdoe, R.S. Porter, B.R. Shade, Brady, Englewood Cliffs, NJ, 1991.

Evaluation:

Class Examinations:	50%
Clinical Evaluations:	30%
Final Examination:	20%

EMS 255
Management of Trauma
Course Outline

Trauma - Magnitude of the Problem
Kinematics of Injury
Assessment of the Trauma Victim
Burns
Spinal Trauma
Spinal Management
Head Trauma
Chest Trauma
Airway Management in Trauma
Abdominal Trauma
Extremity Trauma
Review of Shock
Fluid Resuscitation in Trauma
The Multi-Injured Patient
Pediatric Trauma Considerations
Geriatric Trauma Considerations

EMS 256

Emergency Vehicle Operations, Communications, and Record Keeping

Course Description:

This course examines the principles and practices governing the safe operation and maintenance of emergency vehicles, it also prepares the student to effectively utilize emergency communications equipment and prepare EMS records.

Quarter Hour Credit:	5	
Hours Per Week:	4 class	2 lab
Prerequisites:	EMS 172	
Corequisites:	None	

Course Objectives:

- Identify required equipment for ambulances in North Carolina.
- Identify motor vehicle laws in North Carolina which relate to emergency vehicle operations.
- Describe the steps in completing a daily vehicle checklist and routine maintenance procedures for emergency vehicles.
- Identify the components of an effective communications system.
- Identify equipment common to EMS communications.
- Demonstrate the ability to deliver a thorough concise patient report to a medical facility.
- Describe medical/legal aspects of record keeping for EMS.
- Demonstrate the ability to complete the patient report forms used in North Carolina.

Suggested Texts:

Ambulance and EMS Driving, James A. Hanna, Reston Publishing Company, Inc. Reston, VA 1983.

Emergency Ambulance Driving, B.J. Childs and D.J. Ptacnik. Brady, Englewood Cliffs, NJ, 1986.

Paramedic Emergency Care, B.E. Blesdoe, R.S. Porter, B.R. Shade, Brady, Englewood Cliffs, NJ, 1991.

Evaluation:

Class Examinations:	80%
Final Examination:	20%

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EMS 256
Vehicle Operations
Communications, and Record Keeping

- Emergency Vehicle Operations
  - Motor Vehicle Laws
    - Warning Devices
    - Right of Way
    - Speed Limit
    - Parking
    - Personnel
  - KKK-A-1822 A Specifications
    - Types of Vehicle
    - Electrical Equipment
    - Chassis Selection
  - Minimum Equipment List
    - Patient Care Supplies
    - Extrication Equipment
    - Other Equipment
  - Hazards of Emergency Driving
    - Driver Performance Test
    - Drive Perception Course
    - Speed
    - Intersections
    - Driving Emergencies
  - Vehicle Maintenance
    - Daily Unit Check
    - Preventive Maintenance
    - Weekly
    - Monthly
    - Mileage
  - Driving Course (optional)
    - Safety
    - Serpentine
    - Alley
    - Dock

- Diminishing Clearance
- Parallel Parking
- Intersections
- Evasive Maneuvers
- Diagonal Parking
- Driveway Turn
- Controlled Braking

Communications
  - EMS Communications System
    - Detection
    - Notification
      - 911 System
    - Dispatch
    - In Field Treatment
    - E.D. Care
      - Telemetry
    - Inter Agency
  - Necessity of Communications
    - Medical Control
      - Telemetry
    - Dispatch
      - Public Access
    - Inter Agency
      - Local
      - Regional
  - EMS Communications Equipment
    - Mobile Equipment
      - Transceivers
      - Mobile Repeaters
    - Portable Equipment
      - Telemetry Unit
      - Hand Head Unit
      - Paging Receivers
    - Station Equipment
      - Base Station
      - Control Equipment

      - Selective Calling Unit
      - Recording Equipment
      - Interface
  - Communications Frequencies
    - UHF Frequencies
      - Wave Formation
      - Multiplex Operations
      - Limitations
      - Advantages
    - VHF High Band
      - Wave Formation
      - Duplex Operation
      - Limitations
      - Advantages
    - VHF Low Band
      - Wave Formation
      - Simplex Operations
      - Limitations
      - Advantages
  - Sequence For Radio Communications
    - Unit Identification
    - Acknowledgement
    - Describe Situation
    - Medical History
    - Exam Findings
    - ETA
    - Orders Requested
    - Orders Repeated
    - Update Report
- Record Keeping
  - Reasons For Record Keeping
    - Administrative
    - Medical
    - Audit and Review
    - Research

- Legal Aspects of Record Keeping
    - Liability
    - Court Procedures
    - Importance of Documentation
    - Special Situations
- Patient Report Forms
    - ACR
    - MICCR

EMS 257
Life Span Emergencies

Course Description:

This course provides the student with the knowledge and skills necessary to provide emergency care to the infant, child and elderly patient and the pregnant woman. A clinical component is included.

Quarter Hour Credit:	6
Hours Per Week:	4 class 2 lab 3 clinical
Prerequisites:	EMS 162, EMS 255
Corequisites:	None

Course Objectives:

- To provide the assessment skills necessary to elicit an accurate history and perform a physical examination on the infant, child, elderly patient, and the pregnant woman.
- To provide an understanding of changes in response to specific pathologies in the infant, child, and elderly patient.
- To provide an understanding of drug therapy in the body's response to medications in the infant, child, elderly patient, and the pregnant woman.
- To make the student aware of the psychological needs of the infant, child, and elderly patient in the context of age and illness.

Suggested Texts:

Pediatric Emergency Treatment, Stanley A. Cohen, M.D., Brady, Bowie, Maryland, 1982.

Emergency Pediatrics, Roger M. Barkin, M.D., Mosby, St. Louis, MO, 1984.

Emergency Problems of the Elderly, Edward P. Hoffer, M.D.ed., Medical Economics Books, Brooklyn, NY, 1985.

Paramedic Emergency Care, B.E. Blesdoe, R.S. Porter, B.R. Shade, Brady, Englewood Cliffs, NJ, 1991.

Evaluation:

Class Examinations:	50%
Clinical Evaluations:	30%
Final Examination:	20%

EMS 257
Life Span Emergencies
Course Outline

- Newborn
  - Newborn exam
  - APGAR
  - Maturation Scale
  - Neonatal Resuscitation
  - Obstetric Exam
  - Normal labor
  - Complication labor
  - Complication of Pregnancy
- Pediatrics
  - Pediatric ACLS
  - Newborn Seizures
  - Newborn Sepsis
  - Newborn coronary heart disease
  - Neonatal Withdrawal
  - SIDS
  - Resp. Distress in Newborn
  - Early and Late Neonatal Hypocalcemia
  - Hypoglycemia
  - Pediatric Shock
  - Pediatric Cervical Trauma
  - Pediatric Abdominal Trauma
  - Child Abuse
  - Psychological Concerns in Pediatric Trauma
  - Near Drowning
  - Burns
  - Poisoning
  - Infectious Upper Respiratory Emergencies
    - -Croup
    - -Epiglottitis
    - -Bronchiolitis

- Non-Infectious Upper Respiratory Emergencies
  - -Asthma
  - -Foreign Body
- Acute CNS Deterioration
  - -Infections (Meningitis, Encephalitis)
  - -Seizures
  - -Acute Paralysis
  - -Acute Ataxia
  - -Reyes
  - -Coma
- Febrile Child

Geriatrics

- Physiology of Aging
- Pharmacology and the Geriatric Patient
- Assessment of the Geriatric Patient
- Coma and Altered Mental Status
- Pain in the Elderly
- Geriatric Pulmonary Emergencies
- Cardiovascular Emergencies
- Stroke
- GI Bleeds
- Other Medical Emergencies
- Psychiatric Disorders
- Abuse and Neglect

Clinical Experience

Obstetrical Patient

The student will assess and interview the patient.

The student will participate in the treatment of common obstetric emergencies.

The student will assist with a live delivery at the discretion of the attending physician and the mother.

The student will assist in cleaning the airway, insuring adequate ventilations, and maintaining body temperature of the newborn.

The student will participate in post-partum care of the mother.

Pediatric Patient

The student will interview a pediatric patient to determine chief complaint and symptoms.

The student will observe pediatric patients and assist in delivery of care.

Geriatric Patient

The student will interview a geriatric patient to determine chief complaint and symptoms.

The student will observe geriatric patients and assist in delivery of care.

EMS 258
Law and Ethics

Course Description:

This course introduces the student to the laws governing the practice of emergency medical services and the ethics of emergency medical care.

Quarter Hour Credit:	5
Hours Per Week:	5 class
Prerequisites:	EMS 162, EMS 172, EMS 255
Corequisites:	None

Course Objectives:

At the conclusion of this course the student should be able to:

- Explain current legal and ethical controversies in medicine.
- Explain the difference between laws and regulations.
- Give examples of professional ethics.
- Define basic legal terms.
- Locate NC laws and regulations applying to EMS.

Suggested Texts:

Dynamics of Law in Nursing and Health Care, 2nd Ed., M.D. Hemelt., Reston Publishing, 1982.

EMS Law, R.A. Lazur, Aspen Publishing, 1989.

Evaluation:

Class Examinations:	80%
Final Examination:	20%

EMS 258
Law and Ethics
Course Outline

- Introduction to the legal system
  - Terminology
  - Documentation
  - Malpractice
- The EMS professional and the law
  - Consent
  - Abandonment
  - Negligence
  - Standard of Care
  - Good Samaritan
- Special care situations
  - Abuse
  - Living Wills and DNR Orders
- Ethical considerations for the EMS professional
  - Controversies
  - Professional behavior
- General Statutes of North Carolina
  - Vehicle Laws
  - Medical Practice Act
  - Emergency Medical Services Act of 1973
  - Regulation of Ambulance Services
- North Carolina Administrative Code
  - Vehicles
  - Certification
  - Procedures
  - Recertification

EMS 259
Seminar

Course Description:

This course examines current trends, issues and controversies in EMS including certification, recertification and continuing education. Students will prepare and present classes.

Quarter Hour Credit:	3
Hours Per Week:	3 class
Prerequisites:	Permission of Instructor
Corequisites:	EMS 263, EMS 273

Course Objectives:

- To present issues in EMS which will affect the student as a future paramedic in the workplace.
- To enable the student to formulate a position on these issues.
- To provide the student with the opportunity to plan, develop, and present an effective training session.

Suggested Texts:

Current EMS and medical journal articles.

Evaluation:

Class Presentation:	50%
Final Examination:	50%

EMS 259
Seminar
Course Outline

The course outline will be decided on by consensus of the group with the direction of the instructor to accommodate the changing nature of EMS. Emphasis will be placed on developing skills in preparing and presenting a public education program.

- Current Trends
  - Issues
  - Controversies

- Changing Trends

- Basic Principles of Teaching

- Planning a Training Session
  - Purpose
  - Objectives
  - Time Frame
  - Type Audience
  - Basic Evaluation Methods

EMS 161
Clinical Practicum I

Course Description:

This course is the initial hospital clinical experience. Emphasis is placed on the integration of theoretical knowledge obtained in EMS courses with the realities of actual patient care appropriate to the EMT-intermediate

Quarter Hour Credit:	1
Hours Per Week:	3 clinical
Prerequisites:	BIO 160, EMS 152
Corequisites:	EMS 153, EMS 171, BIO 161,

Course Objectives:

Within the context of efficient patient care in the clinical setting the paramedic student will:

- Refine skills in patient assessment in a clinical setting.
- Develop skills in history taking and interview techniques in a clinical setting.
- Develop skill in identifying normal from abnormal findings during a physical assessment and learn to correlate these findings with the specific patient complaint and/or injury.
- Develop the verbal communication skills necessary to relay pertinent patient findings.
- Develop techniques in establishing patient rapport conducive to obtaining a history and performing a physical examination.
- Develop an appreciation for and begin to develop professional relationships with other members of the health care professions.
- Become proficient in obtaining venous blood samples.

- Become skilled in the initiation of peripheral venous access and intravenous fluid therapy administration.

Suggested Texts:

Blesdoe, B.E., Porter, R. S., Shade, B. R. (1991). Paramedic Emergency Care. Englewood Cliffs, NJ: Brady, 1991.

Caroline, N. L. (1987). Emergency Care in the Streets (3rd ed.). Boston:Little, Brown.

Evaluation:

Clinical Evaluations:	80%
Case Studies:	20%

EMS 161
Clinical Practicum I
Specific Unit Objectives

Emergency Room and Critical Care Units

Assist with and review the assessment and treatment of trauma and medical emergency patients.

Assist in cases of cardiac arrest, including the performance of cardiopulmonary resuscitation and basic airway management.

Further develop skills in patient assessment and use this information to make appropriate judgments in subsequent patient care.

Develop skills in peripheral IV insertion and demonstrate an understanding of the principles of IV therapy.

Demonstrate the ability to calculate and adjust IV flow rates during the parenteral administration of fluids.

Assist with application, maintenance and removal of MAST.

Assist with triage to include appropriate vital signs, past and present medical history.

Perform airway maintenance including the securing of the airway through use of an esophageal obturation and the administration of oxygen.

Obtain venous blood samples.

Develop communication skills and cooperative interpersonal relationships with patients, family and the hospital staff personnel.

Respiratory Therapy

Demonstrate an understanding of the principles of oxygen therapy.

Improve skills in various airway maintenance techniques.

Further develop skills in patient assessment and use this information to make appropriate judgments concerning subsequent patient care.

Perform oro-pharyngeal airway maintenance.

Observe the technique of drawing for blood gases and interpret the results appropriately.

Develop communication skills and cooperative interpersonal relationships with patients and hospital staff personnel.

Outpatient Surgery

Develop practical skills in patient assessment and use this information to make appropriate judgments concerning subsequent patient care.

Develop skills in peripheral IV insertion and demonstrate an understanding of the principles of IV therapy.

When appropriate, observe surgical and exploratory procedures.

Care for the induced coma patient and observe for signs at the various levels as the patient regains consciousness.

Monitor post-operative patients.

Perfect communication skills and interpersonal relationships with patients, patients' families and the hospital staff.

IV Team

Develop skills in peripheral IV insertion and demonstrate an understanding of the principles of IV therapy including the selection of catheters, tubing, fluids, and sites.

Develop the ability to calculate and to adjust flow rates during parenteral administration of IV fluids.

Develop an understanding of the signs and symptoms of the complications of IV fluid therapy and the appropriate methods for their correction.

Develop skills in aseptic technique.

Perfect communication skills and interpersonal relationships with the patients and the hospital staff.

EMS 162
Clinical Practicum II

Course Description:

This course continues the hospital clinical experience. Emphasis is placed on the integration of theoretical knowledge with the realities of patient care appropriate to the EMT-advanced intermediate.

Quarter Hour Credit:	2
Hours Per Week:	6 clinical
Prerequisites:	EMS 154, EMS 155,
Corequisites:	EMS 157, EMS 254, EMS 171

Course Objectives:

- To develop an understanding and appreciation of the components of definitive in-hospital diagnosis and treatment of emergency and non-emergency patients.
- To refine skills in communication and interpersonal relationships with patients and hospital staff.
- To develop an understanding and appreciation of the role, capabilities and limitations of other members of the medical care team.
- To further develop skills in patient assessment and the invasive and non-invasive techniques of patient care already learned.
- To develop skills in invasive and non-invasive techniques of patient care appropriate to the EMT-advanced intermediate.

Suggested Texts:

Bates, B. (1991). A Guide to Physical Examination and History Taking. (5th ed.) Lippincott.

Blesdoe, B.E., Porter, R. S., Shade, B. R. (1991). Paramedic Emergency Care. Englewood Cliffs, NJ: Brady, 1991.

Caroline, N. L. (1987). Emergency Care in the Streets (3rd ed.). Boston: Little, Brown.

Evaluation:

Clinical Evaluations: 80%
Case Studies: 20%

EMS 162
Clinical Practicum II
Specific Unit Objectives

Emergency Room and Critical Care Units

Assist with and review the assessment and treatment of trauma and medical emergency patients.

Prepare and administer sublingual, subcutaneous and intravenous medications consistent with the EMT advanced intermediate formulary.

Observe the effects of pharmacological agents administered.

Assist in cases of cardiac arrest, including the performance of cardiopulmonary resuscitation, airway management, external pacing, drug administration and defibrillation.

Apply monitoring electrodes, observe cardiac monitoring and interpret dysrhythmias.

Assist with external cardiac pacing of a patient.

Further develop skills in patient assessment and use this information to make appropriate judgments in subsequent patient care.

Further develop skills in peripheral IV insertion and demonstrate an understanding of the principles of IV therapy.

Demonstrate the ability to calculate and adjust IV flow rates during the parenteral administration of fluids.

Assist with application, maintenance and removal of MAST.

Assist with triage to include appropriate vital signs, past and present medical history and initial intervention as appropriate.

Perform airway maintenance including the securing of the airway through endotracheal intubation, oral and endotracheal suctioning, and the administration of oxygen.

Obtain venous blood samples.

Develop communication skills and cooperative interpersonal relationships with patients, family and the hospital staff personnel.

Operating Room

Demonstrate a knowledge and understanding of the principles of airway management and develop skills in oral airway insertion, endotracheal intubation, and assisted ventilation.

Further develop practical skills in patient assessment and use this information to make appropriate judgments in subsequent patient care.

Further develop skills in peripheral IV insertion and demonstrate a knowledge and understanding of the principles of IV therapy.

Observe the effects of pharmacological agents administered.

Observe surgical procedures and techniques to obtain a better understanding of anatomy and physiology.

Observe cardiac monitoring and interpret dysrhythmias.

Develop communication skills and cooperative interpersonal relationships with patients and hospital staff personnel.

Respiratory Therapy

Demonstrate an understanding of the principles of oxygen therapy and develop skills in the use of various respiratory equipment and methods of artificial ventilation.

Improve skills in various airway maintenance techniques.

Observe the effects of pharmacological agents administered.

Further develop skills in patient assessment and use this information to make appropriate judgments concerning subsequent patient care.

Assist and review the treatment of trauma cases and medical emergencies.

Perform oro-pharyngeal and endotracheal suctioning.

Observe the technique of drawing for blood gases and interpret the results appropriately.

Develop communication skills and cooperative interpersonal relationships with patients and hospital staff personnel.

Outpatient Surgery

Further develop practical skills in patient assessment and use this information to make appropriate judgments concerning subsequent patient care.

Further develop skills in peripheral IV insertion and demonstrate an understanding of the principles of IV therapy.

When appropriate, observe surgical and exploratory procedures.

Observe the effects of pharmacological agents administered.

Care for the induced coma patient and observe for signs at the various levels as the patient regains consciousness.

Monitor post-operative patients.

Perfect communication skills and interpersonal relationships with patients, patients' families and the hospital staff.

IV Team

Further develop skills in peripheral IV insertion and demonstrate an understanding of the principles of IV therapy including the selection of catheters, tubing, fluids, and sites.

Demonstrate the ability to calculate and to adjust flow rates during parenteral administration of IV fluids.

Develop an understanding of the signs and symptoms of the complications of IV fluid therapy and the appropriate methods for their correction.

Further develop skills in aseptic technique.

Perfect communication skills and interpersonal relationships with the patients and the hospital staff.

EMS 263
Clinical Practicum III

Course Description:

This course integrates all the theoretical knowledge of the EMS curriculum to the hospital clinical care of the patient.

Quarter Hour Credit:	2
Hours Per Week:	6 clinical
Prerequisites:	EMS 255, 257
Corequisites:	EMS 273

Course Objectives:

- To develop an understanding and appreciation of the components of definitive in-hospital diagnosis and treatment of emergency and non-emergency patients.
- To perfect communications and interpersonal relationships with patients and hospital staff.
- To develop an understanding and appreciation of the role, capabilities and limitations of other members of the medical care team.
- To assist in promoting an understanding by other medical professionals concerning the role, capabilities and limitations of the paramedic.
- To further develop skills in patient assessment and the invasive and non-invasive techniques of patient care already learned.
- To develop skills in invasive and non-invasive techniques of patient care appropriate to the EMT-paramedic.

Suggested Texts:

Bates, B. (1991). A Guide to Physical Examination and History Taking. (5th ed.) Lippincott.

Blesdoe, B.E., Porter, R. S., Shade, B. R. (1991). *Paramedic Emergency Care*. Englewood Cliffs, NJ: Brady, 1991.

Caroline, N. L. (1987). *Emergency Care in the Streets* (3rd ed.). Boston: Little, Brown.

Evaluation:

Clinical Evaluations: 80%
Case Studies: 20%

EMS 263
Clinical Practicum III
Specific Unit Objectives

Emergency Room and Critical Care Units

Assist with and review the assessment and treatment of trauma and medical emergency patients.

Prepare and administer sublingual, intramuscular, subcutaneous and intravenous medications.

Observe the effects of pharmacological agents administered.

Assist in cases of cardiac arrest, including the performance of cardiopulmonary resuscitation, airway management, external pacing, drug administration and defibrillation/cardioversion.

Apply monitoring electrodes, observe cardiac monitoring and interpret dysrhythmias.

Assist with external cardiac pacing of a patient.

Observe the insertion of temporary and permanent pacemakers and the care of the post-implant patient.

Observe and record 12 lead electrocardiograms.

Observe and when appropriate, assist with carotid sinus massage.

Further develop skills in patient assessment and use this information to make appropriate judgments in subsequent patient care.

Further develop skills in peripheral IV insertion and demonstrate an understanding of the principles of IV therapy.

Demonstrate the ability to calculate and adjust IV flow rates during the parenteral administration of fluids.

Assist with application, maintenance and removal of MAST.

Assist with triage to include appropriate vital signs, past and present medical history and initial intervention as appropriate.

Perform airway maintenance including the securing of the airway through endotracheal intubation, oral and endotracheal suctioning, and the administration of oxygen.

Obtain venous blood samples.

Develop communication skills and cooperative interpersonal relationships with patients, family and the hospital staff personnel.

Operating Room

Demonstrate a knowledge and understanding of the principles of airway management and develop skills in oral airway insertion, endotracheal intubation, and assisted ventilation.

Further develop practical skills in patient assessment and use this information to make appropriate judgments in subsequent patient care.

Develop and perfect skills in peripheral IV insertion and demonstrate a knowledge and understanding of the principles of IV therapy.

Observe the effects of pharmacological agents administered.

Observe surgical procedures and techniques to obtain a better understanding of anatomy and physiology.

Observe cardiac monitoring and to interpret dysrhythmias.

Develop communication skills and cooperative interpersonal relationships with patients and hospital staff personnel.

Respiratory Therapy

Demonstrate an understanding of the principles of oxygen therapy and develop skills in the use of various respiratory equipment and methods of artificial ventilation.

Improve skills in various airway maintenance techniques.

Observe the effects of pharmacological agents administered.

Further develop skills in patient assessment and use this information to make appropriate judgments concerning subsequent patient care.

Assist and review the treatment of trauma cases and medical emergencies.

Perform oro-pharyngeal and endotracheal suctioning.

Observe the technique of drawing for blood gases and interpret the results appropriately.

Develop communication skills and cooperative interpersonal relationships with patients and hospital staff personnel.

Outpatient Surgery

Further develop practical skills in patient assessment and use this information to make appropriate judgments concerning subsequent patient care.

Further develop skills in peripheral IV insertion and demonstrate an understanding of the principles of IV therapy.

When appropriate, observe surgical and exploratory procedures.

Observe the effects of pharmacological agents administered.

Care for the induced coma patient and observe for signs at the various levels as the patient regains consciousness.

Monitor post-operative patients.

Perfect communication skills and interpersonal relationships with patients, patients' families and the hospital staff.

IV Team

Further develop skills in peripheral IV insertion and demonstrate an understanding of the principles of IV therapy including the selection of catheters, tubing, fluids, and sites.

Demonstrate the ability to calculate and to adjust flow rates during parenteral administration of IV fluids.

Develop an understanding of the signs and symptoms of the complications of IV fluid therapy and the appropriate methods for their correction.

Further develop skills in aseptic technique.

Perfect communication skills and interpersonal relationships with the patients and the hospital staff.

EMS 171
Field Internship I

Course Description:

This course is the initial field experience. Emphasis is placed on the integration of theoretical knowledge obtained in EMS courses with the realities of field-oriented patient care appropriate to the EMT-intermediate.

Quarter Hour Credit:	0.5 (5 1/2 week course)
Hours Per Week:	10 work experience
Prerequisites:	EMS 152, BIO 160
Corequisites:	EMS 153, EMS 161, BIO 161

Course Objectives:

- To develop communication skills and interpersonal relationships with patients and EMS staff.
- To develop an understanding and appreciation of the role, capabilities and limitations of other members of the emergency medical care team.
- To develop skills in establishing peripheral venous access, obtaining venous blood sample, use of MAST, use of esophageal obturator airway.
- To further develop skills in patient assessment and the use of automated defibrillation.

Suggested Texts:

Blesdoe, B.E., Porter, R. S., Shade, B. R. (1991). Paramedic Emergency Care. Englewood Cliffs, NJ: Brady.

Caroline, N. L. (1987). Emergency Care in the Streets (3rd ed.). Boston: Little, Brown.

Evaluation:

Field Evaluations: 80%
Case Studies: 20%

EMS 172
Field Internship II

Course Description:

This course is the continuation of the field experience. Emphasis is placed on the integration of theoretical knowledge with the realities of field-oriented patient care appropriate to the EMT-advanced intermediate.

Quarter Hour Credit:	0.5 (5 1/2 week course
Hours Per Week:	10 work experience
Prerequisites:	EMS 154, EMS 155, BIO 161
Corequisites:	EMS 157, EMS 162, EMS 254

Course Objectives:

- To develop an understanding and appreciation of the components of definitive pre-hospital diagnosis and treatment of emergency and non-emergency patients.
- To improve communications skills and interpersonal relationships with patients and EMS staff.
- To develop an understanding and appreciation of the role, capabilities and limitations of other members of the emergency medical care team.
- To assist in promoting an understanding by other medical professionals concerning the role, capabilities and limitations of paramedics.
- To further develop practical skills in patient assessment and the invasive and non-invasive techniques of patient care appropriate to the EMT-advanced intermediate (EMT-AI).
- To integrate previously developed skills and knowledge into the patient situations encountered in the pre-hospital setting.
- To function as a member of a Mobile Intensive Care Unit by:

a. developing familiarity with the emergency medical care team's role and operation in the field setting.

b. becoming familiar with the supplies and equipment available on a MICU.

c. providing basic and advanced life support according to accepted protocols based on assessment and recognition of the patient's problem.

d. becoming familiar with the various forms of communication and reporting used in the pre-hospital setting.

Suggested Texts:

Blesdoe, B.E., Porter, R. S., Shade, B. R. (1991). Paramedic Emergency Care. Englewood Cliffs, NJ: Brady.

Caroline, N. L. (1987). Emergency Care in the Streets (3rd ed.). Boston: Little, Brown.

Evaluation:

Field Evaluations:	80%
Case Studies:	20%

EMS 273
Field Internship III

Course Description:

This course applies all the theoretical knowledge and the basic and advanced life support skills of the EMS curriculum to the field care of the patient appropriate for the EMT-paramedic.

Quarter Hour Credit: 1
Hours Per Week: 10 work experience
Prerequisites: EMS 255, EMS 257
Corequisites: EMS 263

Course Objectives:

- To develop an improved understanding and appreciation of the components of definitive pre-hospital diagnosis and treatment of emergency and non-emergency patients.
- To perfect communications skills and interpersonal relationships with patients and EMS staff.
- To develop an understanding and appreciation of the role, capabilities and limitations of other members of the emergency medical care team.
- To assist in promoting an understanding by other medical professionals concerning the role, capabilities and limitations of paramedics.
- To further develop practical skills in patient assessment and the invasive and non-invasive techniques of patient care appropriate to the EMT-paramedic.
- To integrate previously developed skills and knowledge into the patient situations encountered in the pre-hospital setting.
- To function as a member of a Mobile Intensive Care Unit by:

a. developing familiarity with the emergency medical care team's role and operation in the field setting.

b. becoming familiar with the supplies and equipment available on a MICU.

c. providing basic and advanced life support according to accepted protocols based on assessment and recognition of the patient's problem.

d. becoming familiar with the various forms of communication and reporting used in the pre-hospital setting.

Suggested Texts:

Blesdoe, B.E., Porter, R. S., Shade, B. R. (1991). *Paramedic Emergency Care*. Englewood Cliffs, NJ: Brady, 1991.

Caroline, N. L. (1987). *Emergency Care in the Streets* (3rd ed.). Boston: Little, Brown.

Evaluation:

Field Evaluations: 80%
Case Studies: 20%

BIO 160
Anatomy and Physiology I

Course Description:

A study of the structures and functions of the skeletal, muscular, reproductive, urinary, and endocrine systems of the human body. Basic principles and concepts of microbiology and chemistry are integrated as they relate to physiology and the study of pathophysiology.

Quarter Hour Credit:	6
Hours Per Week:	5 class2 lab
Prerequisites:	None
Corequisites:	None

Course Objectives:

Upon successful completion of this course, the student will be able to:

- Define terminology used in basic anatomy and physiology.
- Identify the structures within a representative cell.
- Explain ways in which the human body protects itself from disease.
- Relate the study of microbiology to normal and abnormal functions of the body.
- Relate the study of chemistry to normal and abnormal functions of the body.
- Describe the structure and function of the integumentary system and identify its parts.
- Describe the structure function of the musculoskeletal system.
- Demonstrate a knowledge of the structure, and function of the male and female reproductive systems.
- Identify hormones produced by each of the endocrine glands and their functions.

Suggested Texts:

Structure and Function, 8th Ed., Thebodeau, Mosby, 1987.

Human Anatomy and Physiology, 5th Ed., J. Hole, W.C. Brown, 1990.

Evaluation:

Class Examinations: 80%
Final Examination: 20%

BIO 160

Anatomy and Physiology I
Course Outline

- General Plan of Human Body
  - Living matter
    - Basic substance - protoplasm
    - Structural unit - cell
  - Life processes and reactions to cells
    - Respiration
    - Nutrition
    - Excretion
    - Growth
    - Movement
    - Irritability
    - Reproduction
  - Genetics
    - Genes
    - Cell differentiation in human embryo
  - Organization of body
    - Cells
    - Tissues
    - Organs
    - Systems
  - Body directions - terminology
  - Body divisions
- Microbiology and Immunology
  - Microbiology
    - Algae
    - Fungi
    - Protozoa
    - Bacteria
    - Parasites and viruses
  - Immunity
    - Natural
    - Acquired

        - Active
        - Passive
    - Immunizing agents
        - Vaccines
        - Serums
- Chemistry, Matter, and Life
    - Fundamental units of matter
        - Atoms and molecules
        - Elements
        - Compounds
        - Mixtures
    - Ions and electrolytes
    - Acids and bases
    - Chemistry of living matter
    - Amino acids
- Integumentary System
    - Skin
    - Accessory organs
- Skeletal System
    - Function
    - Structure
    - Divisions
        - Axial
        - Appendicular
    - Bones
        - Axial skeleton
        - Appendicular skeleton
    - Joints, ligaments, bursae
    - Ossification
- Muscular System
    - Structure
    - Function
    - Types of muscle tissue
    - Characteristics of muscle tissue
    - Skeletal muscle structure

  - Organization of skeletal muscles
    - Antagonist, agonist
    - Prime mover - synergists
  - Types of body movement accomplished by muscle contraction
  - Types of contraction
- Reproductive System
  - Function
  - Male organs
  - Female organs
  - Menstruation
  - Menopause
- Urinary System
  - Functions
    - Excretion
    - Homeostasis
  - Organs
    - Kidney
    - Ureters
    - Urinary bladder
    - Urethra
- Endocrine System
  - Glands
    - Exocrine
    - Endocrine
  - Endocrine glands and hormones
    - Pituitary
    - Thyroid
    - Parathyroid glands
    - Adrenals
    - Pancreas
    - Gonads
    - Thymus
    - Pineal

BIO 161
Anatomy and Physiology II

Course Description:

A continuation of Anatomy and Physiology I. Structures and functions of the circulatory, respiratory, digestive, and nervous systems of the human body are studied. Basic principles of microbiology and chemistry are integrated as they relate to physiology and the study of pathophysiology.

Quarter Hour Credit:	6	
Hours Per Week:	5 class	2 lab
Prerequisites:	None	
Corequisites:	None	

Course Objectives:

Upon successful completion of this course, the student will be able to:

- Describe the function of the respiratory system and identify its parts.
- Describe the function of the circulatory system and identify its parts.
- Identify the parts of the digestive system and accessory organs on a diagram.
- Describe the changes in ingested food as it passes through the digestive system to elimination.
- Classify the organs of the nervous system into central and peripheral divisions.
- Compare and contrast the sympathetic and parasympathetic divisions of the autonomic nervous system.
- Identify the sequence of events involved in the transmission of a nerve impulse.

Suggested Texts:

Structure and Function, 8th ed., Thebodeau, Mosby, 1987.

Human Anatomy and Physiology, 5th ed., J. Hole, W.C. Brown, 1990.

Evaluation:

Class Examinations:	80%
Final Examination:	20%

BIO 161

Anatomy and Physiology II
Course Outline

Respiratory System

- Respiration
  - Internal
  - External

- Organs
  - Nose
  - Sinuses
  - Pharynx
  - Larynx
  - Trachea
  - Bronchi, bronchioles
  - Lungs
  - Alveoli
  - Lung cavities

- Physiology of respiration
  - Inspiration
  - Expiration
  - Pressures

- Control of breathing

- Pulmonary functions studies
  - Rate
  - Tidal volume
  - Inspiratory reserve
  - Expiratory reserve
  - Vital capacity

Circulatory System

- Organs
  - Heart
    - Coverings
    - Chambers
    - Valves

Flow of blood through heart
Electrical conduction system
Cardiac cycle
Blood
Cells or elements
Plasma
Clotting mechanisms
Blood types
Blood vessels
Lymphatic system

Arteries
Aorta
Ascending
Iliac arteries
Subclavian arteries
Common carotid

Veins
Superficial veins
Deep veins
Vena cava

Role of circulatory system in regulating body temperature

Digestive System

Functions

Organs
Mouth
Pharnynx
Esophagus
Stomach
Small intestines
Large intestines
Accessory organs of digestion

Process of digestion

Nervous System

Functions

  - Coordination
  - Control

- Divisions
  - Central nervous system
  - Peripheral nervous system
  - Autonomic nervous system

- Neurons and nerves

- Brain

- Spinal cord

- Cranial nerves

- Spinal nerves

- Autonomic nervous system
  - Functions
  - Divisions
    - Sympathetic nervous system
    - Parasympathetic nervous system

- Eye
  - Structural protection
  - Eyeball

- Ear
  - Functions
  - Parts

PSY 160
Introduction to Psychology

Course Description:

An introductory course which covers the basic concepts of psychology as employed by the major theorists and the practical and therapeutic application of these concepts.

Quarter Hour Credit:	5
Hours Per Week:	5 class
Prerequisites:	None
Corequisites:	None

Course Objectives:

Upon successful completion of this course, the student should be able to:

- define psychology and compare its goals, controversies, and methods of experimentation.
- differentiate between the control and flow of information within the nervous system and the computer.
- explore the relative contributions of heredity and environment to genetic research.
- differentiate between perception and sensation and concepts common to both.
- understand the basic principles of learning and factors which can influence the learning process.
- differentiate between descriptive and inferential statistics.
- differentiate between the cognitive processes of reasoning, problem solving, and language.
- explain the influences on motivational behavior.

- understand the emotional impact of anxiety, frustration, and aggression.
- correlate the factors which influence the social and emotional development of the infant, child, and adult.
- differentiate between personality and schizophrenic disorders.
- differentiate between mental health and psychopathology.
- describe and explain the social considerations affecting human behavior.

Suggested Texts:

Bourne, Lyle E., and Ekstrand, Bruce R. Psychology: Its Principles and Meanings. 5th Edition, Holt, Rhinehart and Winston, 1985.

Evaluation:

Class Examinations:	80%
Final Examination:	20%

CAS 160
Introduction to Microcomputers

Course Description:

This course concentrates on the knowledge and skills needed to operate a microcomputer. Upon completion of this course, students should be able to operate the keyboard, floppy disk, and line printer; use operational commands; use sample software packages for word processing, spreadsheets, and file management. Microcomputers will be used for practice exercise.

Quarter Hour Credit:	5	
Hours Per Week:	3 class	4 lab
Prerequisites:	None	
Corequisites:	None	

Course Objectives:

Upon successful completion of this course, the student should be able to:

- operate a keyboard
- use floppy disk and line printer
- use operational commands
- enter data and interpret output for selected business data processing applications.

Suggested Texts:

Using Microsoft Works on the Macintosh, P. Yasuda, Mitchell, 1987.

Using Microsoft Works on the IBM-PC, P. Yasuda, Mitchell, 1989.

Evaluation:

Exercises:	40%
Class Examinations:	40%
Final Examination:	20%

BUS 260
Personnel Management and Finance

Course Description:

This course explores the problems of personnel management in public and private organizations. Basic principles of supervision and management are presented. Financial aspects of management including acquisition of funds, capital management, and budgeting are considered.

Quarter Hour Credit: 5
Hours Per Week: 5 class
Prerequisites: None
Corequisites: None

Course Objectives:

- Identify management styles and positions.
- Define basic management functions.
- Identify barriers to effective performance.
- Identify barriers to effective communication.
- Identify patterns of leadership style.
- Conduct a simulated employee selection interview.
- Identify common approaches to employee performance appraisal.
- Identify fair and effective disciplinary action.
- Define operating budget, capital budget, and cash budget.
- Discuss billing practices currently utilized and collection methods.

Suggested Texts:

McConnell, Charles R., The Effective Health Care Supervisor, Aspen Publishers.

Metzger, Health Care Supervisor's Handbook, Aspen, 1988.

Evaluation:

Class Examinations: 80%
Final Examination: 20%

BUS 260
Personnel Management and Finance
Course Outline

- Organizational Management
  - Nature of the Organizations
  - Implications For Supervision
  - The Nature of Supervision
  - The Basic Management Functions
  - The Nature of Delegation
  - Time Management
- Personnel Management
  - Interviewing
  - Communicating On A One To One Basis
  - Barriers To Effective Communication
  - Employee Motivation
  - Performance Appraisal
  - The Problem Employee
  - The Nature of Change
- Financial Management
  - The Cost of Doing Business
  - Budgeting
  - Billing

MAT 170
College Algebra

Course Description:

This course is designed to prepare students for study in the fields of mathematics, business, science, and engineering. Topics include real numbers, basic algebraic operations, equations and inequalities, functions and graphs, and exponential and logarithmic functions.

Quarter Hour Credit:	5
Hours Per Week:	5 class
Prerequisites:	None
Corequisites:	None

Course Objectives:

At the completion of this course the student should be able to:

- Perform arithmetic operations with polynomials, algebraic fractions, and complex numbers.
- Simplify complex fractions and radicals.
- Simplify and evaluate powers having rational exponents.
- Solve linear and quadratic equations.
- Use a computer or calculator to approximate the solution to solvable equations.
- Solve equations and inequalities involving absolute value expressions.
- Solve word problems which can be modeled by a linear or quadratic equation.
- Use symmetry and translation to sketch the graphs of given functions.

- Find real and complex roots of polynomial functions.
- Graph and solve exponential and logarithmic functions.

Suggested Texts:

Aufman, Richard N., Vernon C. Barker, and Richard D. Nation, Jr., College Algebra and Trigonometry, Houghton-Mifflin Company, Boston, 1990.

Lial, Margaret, and Charles D. Miller, and David Schneider, College Algebra, Scott Foresman and Company, Boston, 1989.

Evaluation:

Class Examinations: 80%
Final Examination: 20%

MAT 170
College Algebra
Course Outline

- Basic Algebra Operations
  - Real number properties and operations
  - Polynomials: basic operations
  - Factoring
  - Rational expressions: basic operations
  - Integer exponents
  - Radicals
  - Rational exponents
- Equations and Inequalities
  - Equations and inequalities
  - Applications of linear equations and inequalities
  - Formulas and literal equations
  - Absolute value in equations and inequalities
  - Complex numbers
  - Quadratic equations and inequalities
  - Polynomial and rational inequalities
  - Equations reducible to quadratic form
  - Radical equations
  - Applications
- Graphs and Functions
  - Basic tools; relations
  - Straight lines
  - Functions
  - Linear and quadratic functions
  - Aids to graphing functions
  - Operations on functions; composition
  - Inverse functions
  - Variation
  - Mathematical models

Systems of Equations and Inequalities
- Systems of linear equations in two and three variables
- Nonlinear systems
- Problem-solving applications
- Determinants and Cramer's Rule
- Inconsistent and dependent systems
- Linear inequalities in two variables *WPC
- Systems of linear inequalities
- Linear programing

ENG 170
English Composition

Course Description:

This is a course in standard usage of the English language and a study of the rhetoric of expository writing. Emphasis is placed on the reading and the writing of essays.

Quarter Hour Credit:	5
Hours Per Week:	5 class
Prerequisites:	None
Corequisites:	None

Course Objectives:

Upon successful completion of this course, the student will be able to:

- write an effective paragraph that is unified, coherent and complete.
- write a five paragraph theme that contains an explicit statement of thesis within the introductory paragraph, a well-organized and well-developed discussion of that thesis within its three paragraph body, and a logical conclusion to the thesis and discussion in the fifth and final paragraph.
- recognize the purpose of any given essay and to locate the thesis statement of that essay.
- identify and to explain the pattern of organization of any given essay.
- discuss the diction of a given essay in terms of connotation, appropriateness, and level.
- use standard English grammar in all compositions.

Suggested Texts:

Harbrace College Handbook, Harcourt Brace Jovanovich, 1990.

Evaluation:

Writings:	80%
Final Examination:	20%

ENG 271
Oral Communications

Course Description:

This course deals with the effective use of language through the development and improvement of oral communication skills.

Quarter Hour Credit:	5
Hours Per Week:	5 class
Prerequisites:	None
Corequisites:	None

Course Objectives:

Those students who successfully complete this course should be able to:

- use various methods, such as questioning to generate ideas.
- discriminate between opinion and fact and between opinion and inference and use each appropriately in oral communication.
- recognize logical relationships and processes, such as causation, comparison and contrast, classification, and analysis and use them to accomplish specific purposes.
- participate productively in both large and small group discussions.
- speak clearly and concisely, adapting style to the intended audience and purpose, and following the conventions of grammar, sentence structure, and other essentials that make meaningful communication possible.

Suggested Texts:

Understanding and Sharing, Pearson,4th Ed., W.C. Brown Publishing, 1988.

Hodges, John C. and Whitten, Mary E., Harbrace College Handbook, 10th Ed., Harcourt Brace Jovanovich Publishers, 1986.

Hunt, Douglas, The Dolphin Reader, Boston, Houghton-Mifflin, 1986.

Evaluation:

Class presentations:	60%
Class Examinations:	20%
Final Examination:	20%

560

ENG 271
Oral Communications
Course Outline

- Basic Verbal Skills
  - Importance of Using Correct
    - Grammar
    - Sentence structure
    - Form
  - Using Facts and Reasons to Support Main Ideas
  - Organizing Supporting Facts and Reasons in Logical Order
  - Using Proper Transitions
  - Communicating to Others
    - By Group Discussions
    - Learning To participate
    - Developing skills
  - Expressing Ideas Learned From
    - Essays
    - Questioning

CHAPTER V

Chapter V

GUIDELINES FOR PROGRAM IMPLEMENTATION AND SUPPORT

In developing the guidelines presented here for program implementation, consideration was given to the accreditation standards of the Southern Association of Colleges and Schools and those of the Joint Review Committee on the Educational Programs for the EMT-Paramedic. In addition, guidelines established by the State Board of Community Colleges have been incorporated.

Instructional Faculty

The success and effectiveness of any educational program depend in large measure on a competent, committed faculty. The Department of Community Colleges urges all institutions within the System to hire well-prepared, competent, motivated faculty. In keeping with accreditation standards of the Southern Association of Colleges and Schools and those of the Joint Review Committee on Educational Programs for the EMT-Paramedic, faculty in an Emergency Medical Science program should be qualified through academic preparation and experience to teach the courses to which they are assigned. In addition, the State Board of Community Colleges recommends that faculty members possess: (a) knowledge about the nature and role of the Community College System and the system of comprehensive institutions within the state, (b) the ability to work with students in the setting of higher education, and (c) a willingness to meet the needs of a diversity of students as well as those of the community.

Program Director

The program director of an Emergency Medical Science program should have at least the equivalent academic preparation and credentials for which the students are being prepared. In the event that the program director is not an EMT-paramedic, preparation and training equivalent to that of a paramedic should be demonstrated by comparable credentials. In addition, the program director should have preparation and experience in teaching and educational evaluation and be knowledgeable in educational administration.

Instructors

Emergency Medical Science instructors should have a current clinical background and the appropriate expertise to teach the topics which they are assigned. In addition, they should have sufficient expertise in educational methodology to be able to implement the objectives of the curriculum, employ instructional methodologies appropriate to the material and the student population, and evaluate student learning. The number of faculty should be consistent with the needs of the program and of such a number that the student is presented with a diversity of outlooks and approaches from practicing health care professionals. A system of evaluation should be in place which monitors the continuing expertise of each faculty member in the rapidly changing and expanding field of emergency medical care.

Clinical Faculty

Clinical faculty, if employed in addition to instructional faculty, should have clinical expertise demonstrated by current license or certification and clinical experience appropriate to their areas of clinical supervision. The number of faculty should be consistent with the needs of the program and the requirements of the affiliate clinical agencies. A system of evaluation should be in place which monitors the continuing effectiveness of the supervision provided by clinical faculty members.

Medical Director

Each program should have a licensed physician as medical director. This individual should be qualified through current experience in the emergency care of acutely ill and injured patients. The medical director should be responsible for review of the medical content of the educational curriculum and evaluation of the quality of medical instruction and clinical supervision. The medical director should review the progress of each student in the program and should attest to each student's medical competence prior to graduation.

Advisory Committee

An Emergency Medical Science advisory committee acts to link the educational program with the profession, employers, and the community. It is required in the Curriculum Application process that an advisory committee be established. While the institution is ultimately responsible for curriculum planning and implementation and the administration of programs, these committees, in their advisory capacity, may make recommendations and counsel program directors and faculty in the areas of student recruitment, curriculum, resources, and facilities. From their positions outside the program they are able to offer guidance in the areas of clinical opportunities, employment requirements, and job opportunities.

Membership on the advisory committee should include representation from: (a) paramedic employers, (b) physicians, (c) recent program graduates, and (d) educators. Appointments to the advisory committee should be made so as to ensure continuity while providing for an infusion of new ideas on a regular basis. The procedure for appointment remains with the institution. The program director, faculty, the medical director, and select institutional staff should participate in advisory committee meetings as non-voting members so as to provide information to the committee and receive the advise and guidance of the committee.

Student Policies

The Emergency Medical Science program within the Community College System should have written student policies specific to the program. These policies should be in addition to those of the institution and should inform the student of program admission requirements, enrollment procedures, evaluation procedures, essentials for progression, and graduation requirements.

Admissions

Development of specific admission requirements for Emergency Medical Science programs are the responsibility of the program administration, faculty and the administration of each institution. Such requirements as may be developed are approved by the Board of Trustees of each institution before implementation. The following admission requirements are presented as a guide for the development of a program's specific requirements.

High school diploma or the equivalent
Pass the math and reading entry exams
Medical examination
Possession of a valid driver's license
Interview with the program director and the medical director
Written character references

Institutions may provide developmental programs or resources for applicants who fail to meet basic institutional or program admissions requirements or for admitted students who require strengthening in certain academic areas.

Enrollment

Enrollment in Emergency Medical Science programs is limited by physical and financial resources, available faculty, and job opportunities for graduates. In determining the number of students to be enrolled at any one time, institutions and program administrators should give consideration to these factors as well as local concerns which would affect the ability to provide quality education.

Evaluation

A system should be in place which evaluates students on a regular basis and with sufficient frequency to provide both the student and the faculty member with the means to determine progress towards achieving course objectives and outcome competencies. Such a system should ensure that students experiencing difficulty during the quarter in the classroom, laboratory, clinical facility, or work environment are identified and provided with additional academic support.

In order to meet accreditation essentials, methods used to evaluate student progress in these four areas must be valid assessment instruments and undergo periodic review to ensure continued validity. When necessary, tests and other evaluation instruments must be revised and updated (JRCEMT-P, 1989). Sample clinical evaluations tools developed by Wake Technical College and by the writer and a sample field internship evaluation tool developed by the writer are included in Appendix E and F.

Each Emergency Medical Science program should have in place a system of evaluation which examines the cumulative progress of each student for the quarter in order that a determination can be made as to whether it is appropriate for the student to continue in the program. This evaluation may be the responsibility of the program faculty or a committee of the institution. Guidelines for this evaluation should be written and provided to the student upon admission.

Progression

While the curriculum presented in this manual is designed to culminate in the awarding of the degree to the EMT-paramedic student, the course progression is such that students complete North Carolina training requirement for various levels of EMT certification at particular points throughout their course of study.

EMT

Certification of the EMT requires the completion of a training program approved by NC OEMS with the following minimum contact hours:

Class & laboratory	100 hours
Hospital observation	10 hours

These requirements are satisfied by completing EMS 151 and EMS 152 during the first quarter of the curriculum.

EMT-Defibrillation

Certification of the EMT-D requires the completion of a training program approved by NC OEMS with the following minimum contact hours above the EMT:

Class & laboratory	13 hours

These requirements are satisfied by completing the first two quarters of the curriculum. Additional requirements for an EMT-D training program can be found in Appendix K.

EMT- Intermediate

Certification of the EMT-I requires the completion of a training program approved by NC OEMS with the following minimum contact hours above basic EMT:

Class & laboratory	50 hours
Hospital clinical	24 hours
Field internship	24 hours

These requirements are satisfied by completing the first three quarters of the curriculum. Additional requirements for an EMT-intermediate training program can be found in Appendix H.

EMT- Advanced Intermediate

Certification of the EMT-AI requires the completion of a training program approved by NC OEMS with the following minimum contact hours above EMT-intermediate:

Class & laboratory	80 hours
Hospital clinical	72 hours
Field internship	72 hours

These requirements are satisfied by completing the first five quarters of the curriculum. Additional requirements for an EMT-advanced intermediate training program can be found in Appendix J.

EMT-Paramedic

Certification of the EMT-P requires the completion of a training program approved by NC OEMS with the following minimum contact hours above EMT-intermediate:

Class & laboratory	262 hours
Hospital clinical	116 hours
Field internship	80 hours

These requirements are satisfied by completing all seven quarters of the curriculum. Additional requirements for an EMT-paramedic training program can be found in Appendix I.

Graduation

An Associate in Applied Science (A.A.S.) degree is awarded to each student who successfully completes the curriculum requirements for graduation of the Emergency Medical Science program at the enrolling institution.

Certification of Graduates

Emergency medical technicians at all levels are currently required to obtain North Carolina certification in order to practice.

There is currently no fee for North Carolina EMT certification at any level.

Certification requirements for the EMT-paramedic, EMT-advanced intermediate, and EMT-intermediate are found in the North Carolina Administrative Code T21: 32H .0500 02/22/90 (see appendix D).

Registration as an EMT-paramedic, EMT-intermediate, or EMT is also available through the National Registry of Emergency Medical Technicians. EMT-P and EMT-I registration requires the payment of a fee and the successful completion of a written and practical examination administered by the National Registry. EMT registration requires the payment of a fee and the successful completion of a written examination administered by the National Registry and a practical examination administered by the state. National Registry registration will substitute for the initial examination procedures required for state certification at these levels.

Physical Resources

Facilities

The institution which operates as part of the Community College System and offers the Emergency Medical Science program is responsible for providing classrooms, laboratories, and offices for faculty and administration which are appropriately located for instruction and adequate to meet the educational objectives of the program. Program accreditation essentials require that these facilities have sufficient space to accommodate the number of students and faculty associated with the program at any particular time. An ongoing evaluation of program facilities is necessary to ensure the adequacy of the facilities to meet accreditation standards and the requirements of the program for the provision of quality education.

Each college is responsible for meeting state and federal standards for the health and safety of students and employees.

Equipment and Supplies

The college which operates as part of the Community College System and offers the Emergency Medical Science program is responsible for providing instructional equipment and supplies which are appropriate and adequate to meet the educational objectives of the program. Program accreditation essentials require that equipment be consistent with the needs of the curriculum and adequate for the number of students enrolled. An ongoing evaluation of program equipment and supplies is necessary to ensure that the equipment is state of the art and functional as to meet accreditation standards and the requirements of the program for the provision of quality education. A sample equipment list is included in Appendix P.

Library Resources

Library resources should be readily accessible to the students and faculty. Library resources should include current EMT and medical books and periodicals, scientific books, audiovisual materials, other self-instructional resources, and reference materials. An ongoing evaluation of library resources is necessary to ensure that the collection is current and that provisions are made for the acquisition of additional resources as to meet accreditation standards and the requirements of the program for the provision of quality education. A suggested list of books and journals is included in Appendix Q.

Textbooks and References

The course descriptions for the courses in the curriculum developed for this project include suggested texts. From these lists, current in 1991, Emergency Medical Science instructors should be able to select textbooks and reading appropriate to meet the learning objectives for each course.

Professional Associations

National and state organizations for emergency medical technicians are important to the continuing professional development of the EMT-paramedic. They also serve as sources of information and provide contacts in EMS for faculty and graduates of Emergency Medical Science programs.

The National Association of Emergency Medical Technicians is a national, professional, membership organization. General membership is open to all state and national emergency medical technicians at all levels of certification, as well as, EMS instructors and administrators. Speciality organizations which come under the umbrella of the parent organization include those for EMT-paramedics, instructor/trainers, and administrators. The organization holds an annual educational conference in May or June. Members receive the *NAEMT News* six times annually. Contact: NAEMT, 9140 Ward Parkway, Kansas City, MO 64114.

Nationally, professional organization exists whose focus is a speciality of EMS. Some of these organizations are:

National Flight Paramedics Association
National Association of Search and Rescue
National Association of State EMS Directors
National Council of State EMS Training Coordinators

North Carolina Paramedic Association is a new, professional, membership organization open to North Carolina paramedics working or residing in the state. It holds state membership meetings centrally several times each year.

North Carolina Association of EMTs is a professional, membership organization open to the individual who holds any level of certification at the state or national level. The organization holds an annual conference in late summer. Members receive a newsletter.

BIBLIOGRAPHY

Bibliography

Blank, W. E. (1982). The Handbook for Developing Competency-Based Training Programs. Englewood Cliffs, NJ: Prentice Hall.

Biedsoe, B. E., Porter, R. S., & Shade, B. R. (1991). Paramedic Emergency Care. Englewood Cliffs, NJ: Brady.

Caroline, N. (1987). Emergency Care in the Streets (2nd ed.).

Grant, H. D., Murray, R. H., Jr., & Bergeron, J. D. (1990). Emergency Care (5th ed.). Englewood Cliffs, NJ: Brady.

Joint Review Committee on Educational Programs for the Emergency Medical Technician-Paramedic (1989). Essentials and Guidelines for an Accredited Program. (Available from Joint Review Committee, 1701 West Euless Blvd. Suite 200, Euless, TX 76040)

Knowles, M. S. (1980). The Modern Practice of Adult Education. New York: Cambridge.

Langenbach, M. (1988). Curriculum Models in Adult Education. Malabar, FL: Robert E. Krieger.

U.S. Department of Labor (1965). Dictionary of Occupational Titles. Washington, DC: U.S. Goverment Printing Office.

U.S. Department of Labor (1977). Dictionary of Occupational Titles. Washington, DC: U.S. Goverment Printing Office.

U.S. Department of Labor (1982). Supplement to the Dictionary of Occupational Titles. Washington, DC: U.S. Goverment Printing Office.

APPENDIXES

Appendix A

TASKS

A.	Perform Patient Assessment	
A-1	Conduct scene survey	EMT
A-2	Perform primary survey	EMT
A-3	Perform secondary survey	EMT
A-4	Reevaluate patient status	EMT
B.	Provide Care at the Basic Life Support Level	
B-1	Manage and maintain airway	EMT
B-2	Administer oxygen	EMT
B-3	Immobilize the spine	EMT
B-4	Perform cardiopulmonary resuscitation	EMT
B-5	Control bleeding	EMT
B-6	Treat for shock	EMT
B-7	Obtain vital signs	EMT
B-8	Treat medical emergencies	EMT
B-9	Treat traumatic emergencies	EMT
B-10	Treat environmental emergencies	EMT
B-11	Utilize basic life support equipment on Category I Ambulances	EMT
B-12	Provide psychological support	EMT
B-13	Provide information to patient/family	EMT
B-14	Intervene in crisis situations	EMT
B-15	Administer syrup of Ipecac	EMT
C.	Provide Care at the Advanced Life Support Level	
C-1	Insert esophageal airway	EMT-I
C-2	Perform endotracheal intubation	EMT-AI
C-3	Perform cricothyroidotomy	EMT-P
C-4	Perform pleural decompression	EMT-P
C-5	Obtain electrocardiogram	EMT-D
C-6	Interpret electrocardiogram	EMT-AI
C-7	Perform direct current (DC) countershock with automatic or semi-automatic defibrillator	EMT-D
C-8	Perform direct current (DC) countershock with manual defibrillator	EMT-AI
C-9	Perform external cardiac pacing	EMT-AI
C-10	Obtain venous blood sample	EMT-I
C-11	Establish peripheral venous access	EMT-I
C-12	Perform interosseous infusion	EMT-P
C-13	Administer medications on EMT-Intermediate formulary	EMT-I
C-14	Administer medications on EMT-Advanced Intermediate formulary	EMT-AI
C-15	Administer medications on EMT-Paramedic formulary	EMT-P
C-16	Perform gastric lavage	EMT-I
C-17	Utilize advanced life support equipment on EMT-Intermediate performance list	EMT-I
C-18	Utilize advanced life support equipment on EMT-Advanced Intermediate performance list	EMT-AI

C-19	Utilize advanced life support equipment on EMT-Paramedic performance list	EMT-P
C-20	Perform urinary catheterization	EMT-P
D.	Follow Infection Control Procedures	
D-1	Utilize protective equipment	EMT
D-2	Practice aseptic techniques	EMT
D-3	Dispose of contaminated material properly	EMT
D-4	Sanitize and disinfect unit and equipment	EMT
D-5	Report significant exposure	EMT
E.	Coordinate Rescue Efforts, Gain Access, and Extricate	
E-1	Protect self	EMT
E-2	Protect patient	EMT
E-3	Identify equipment and manpower needs	EMT
E-4	Utilize rescue equipment	EMT
E-5	Establish or function within an incident command system	EMT
F.	Communicate	
F-1	Develop professional rapport	EMT
F-2	Relay patient information	EMT
F-3	Communicate with special populations	EMT
F-4	Operate communication equipment	EMT
G	Display Professionalism	
G-1	Comply with federal, state, and local rules, regulations, and guidelines	EMT
G-2	Continue professional development	EMT
G-3	Protect confidentiality	EMT
G-4	Respect others	EMT
G-5	Demonstrate ethical behavior	EMT
G-6	Adhere to dress code	EMT
G-7	Maintain personal hygiene	EMT
G-8	Provide public education	EMT
H.	Operate Emergency Vehicle	
H-1	Inventory vehicle equipment	EMT
H-2	Apply occupant restraints	EMT
H-3	Choose route	EMT
H-4	Drive vehicle	EMT
H-5	Position vehicle	EMT
I.	Document Actions	
I-1	Complete ambulance call reports	EMT
I-2	Complete incident/accident reports	EMT
I-3	Complete daily activity log	EMT
I-4	Complete supplemental forms	EMT
I-5	Record acceptance, transfer, and use of controlled substances	EMT-P
J.	Strive for Physical and Psychological Well-Being	
J-1	Participate in physical fitness activities	EMT
J-2	Apply principles of body mechanics to lifting and moving patients and equipment	EMT
J-3	Recognize stress and institute interventions	EMT

K. Coordinate Mass Casualty Incident

K-1	Notify communications center	EMT
K-2	Establish command center	EMT
K-3	Establish interagency communications	EMT
K-4	Perform patient triage	EMT
K-5	Establish treatment area	EMT
K-6	Establish staging area	EMT
K-7	Request equipment and manpower resources	EMT
K-8	Coordinate patient transport	EMT
K-9	Coordinate perimeter security and scene safety	EMT
K-10	Critique incident	EMT

EMERGENCY MEDICAL TECHNICIAN-PARAMEDIC:

Provides basic and advanced life support and transportation for the sick and injured in the pre-hospital setting.

APPENDIX B

GENERAL AREAS OF COMPETENCE

A. PERFORM RAPID SYSTEMATIC ASSESSMENT AND DETERMINE APPROPRIATE TREATMENT	A-1 Conduct subjective evaluation	A-2 Conduct objective interview	A-3 Perform systematic physical assessment						
B. RENDER CARE AT THE BASIC LIFE SUPPORT LEVEL	B-1 Manage and maintain airway (oxygen therapy)	B-2 Immobilize the spine	B-3 Perform CPR	B-4 Control bleeding	B-5 Treat for shock (use anti-shock trousers)	B-6 Monitor vital signs	B-7 Treat medical, traumatic and environmental emergencies	B-8 Use basic life support equipment as needed	B-9 Provide psychological support/patient education
C. RENDER CARE AT THE ADVANCED LIFE SUPPORT LEVEL	C-1 Perform advanced airway management	C-2 Monitor and interpret electrocardiogram	C-3 Perform defibrillation and cardioversion	C-4 Draw blood for analysis	C-5 Provide invasive therapy	C-6 Administer medications	C-7 Perform nasogastric lavage	C-8 Use advanced life support equipment as needed	
D. FOLLOW INFECTION CONTROL PROCEDURES	D-1 Maintain good personal hygiene	D-2 Sanitize and disinfect unit and equipment as needed	D-3 Utilize protective equipment as indicated for self and patient	D-4 Observe aseptic techniques in all procedures	D-5 Dispose of contaminated material properly	D-6 Initiate follow-up with hospital and seek treatment if necessary	D-7 Update knowledge of infectious diseases		
E. ASSESS GENERAL SURROUNDINGS AND UTILIZE EXTERNAL RESOURCES	E-1 Identify safety and personal hazards (e.g. threatening weather conditions, hazardous materials)	E-2 Identify means of entry and exit	E-3 Establish safety perimeter and evacuate accordingly	E-4 Identify and request appropriate external resources	E-5 Identify mechanism of injury	E-6 Identify and secure crime scenes	E-7 Identify potential crowd problems		
F. COORDINATE RESCUE EFFORTS, GAIN ACCESS AND EXTRICATE	F-1 Protect him/herself	F-2 Protect the patient from injury	F-3 Analyze equipment and manpower needs	F-4 Use rescue equipment	F-5 Perform and coordinate hazardous environment(s) rescue				
G. COMMUNICATE EFFECTIVELY	G-1 Speak clearly and concisely	G-2 Maintain partnership rapport	G-3 Develop patient rapport	G-4 Organize and complete (when feasible) patient information before contacting medical control	G-5 Relate pertinent patient information to medical control using correct medical terminology	G-6 Communicate with special populations (e.g. those with language barriers and handicaps)	G-7 Perform public relations work		

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H. UTILIZE COMMUNCIATION EQUIPMENT	H-1 Operate UHF, VHF and RTSS systems	H-2 Operate telemetry equipment	H-3 Comply with FCC, state and local guidelines	H-4 Troubleshoot radio equipment	▨ H-5 Operate central telecommunications equipment				
I. DEMONSTRATE PROFESSIONALISM	I-1 Maintain patient dignity	I-2 Behave tactfully and courteously in all public interactions	I-3 Show consideration for person(s) involved with the patient	I-4 Abide by appropriate state and local rules, regulations and guidelines	I-5 Develop a working relationship with colleagues	I-6 Develop a working relationship with other emergency services	I-7 Plan and organize duties	I-8 Adapt to change	I-9 Continue education
J. OPERATE, MAINTAIN AND NAVIGATE EMERGENCY VEHICLE	J-1 Check equipment daily	J-2 Troubleshoot, clean and maintain equipment	J-3 Consider road conditions and operate vehicle safely and defensively	J-4 Monitor vehicle warning systems (e.g. temp gauge, oil pressure, etc.)	J-5 Read a map and recognize geographical landmarks	J-6 Position vehicle safely	J-7 Operate vehicle with regard to patient care	J-8 Comply with local and state DMV guidelines	
K. DOCUMENT ALL ACTIONS PRECISELY AND ACCURATELY	K-1 Complete ambulance call reports	K-2 Record acceptance, transfer, and use of controlled substances	K-3 Document missing or defective equipment	K-4 Complete incident/ accident reports	K-5 Complete daily activity logs	K-6 Complete all supplemental forms (e.g., M.E., medicare and medicaid invoices)			
L. RECOGNIZE AND MANAGE PHYSICAL AND MENTAL STRESS	L-1 Maintain physical and emotional fitness	L-2 Lift and move patient and equipment safely and correctly	L-3 Exercise self control	L-4 Deal with on-scene stress factors	L-5 Cope with death and dying	L-6 Utilize critical incident stress debriefing	L-7 Recognize and constructively respond to burnout factors		
M. COORDINATE MCI ACTIVITIES	M-1 Notify communications of MCI	M-2 Conduct patient triage	M-3 Designate prioritized patient treatment area	M-4 Request appropriate resources	M-5 Establish communication with medical control	M-6 Set up a command post (ICS)	M-7 Assign arriving personnel to appropriate staging area	M-8 Consult resource manual	M-9 Critique MCI activities

▨ **Higher Order Task**

GCC

DACUM PROJECT SPONSORED BY
May 11, 1989
Guilford Technical Community College

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Emergency Medical Technician-Paramedic

APPENDIX C

Essentials and Guidelines

for an Accredited Educational Program

Essentials initially adopted 1978; Revised in 1989
Adopted by the

American College of Emergency Physicians
American College of Surgeons
American Society of Anesthesiologists
National Association of Emergency Medical Technicians
National Registry of Emergency Medical Technicians
American Medical Association

The Committee on Allied Health Education and Accreditation (CAHEA) grants accreditation to programs for the Emergency Medical Technician-Paramedic upon the recommendation of the Joint Review Committee on Educational Programs for the Emergency Medical Technician-Paramedic (JRCEMT-P).

These Essentials are the minimum standards of quality used in accrediting programs that prepare individuals to become Emergency Medical Technician-Paramedics. The extent to which a program complies with these standards determines its accreditation status; the Essentials therefore constitute the minimum requirements to which an accredited program is held accountable. Essentials are printed in regular typeface in outline form.

The Guidelines accompanying the Essentials provide examples intended to assist in interpreting the Essentials. Guidelines are printed in italic typeface in narrative form.

Sections I and III of these Essentials are common to all educational programs accredited by CAHEA. Section II contains the specific requirements for preparing Emergency Medical Technician-Paramedics.

Preamble

Objective

The American College of Emergency Physicians, the American College of Surgeons, the American Society of Anesthesiologists, the National Association of Emergency Medical Technicians, the National Registry of Emergency Medical Technicians, and the American Medical Association cooperate to establish, maintain, and promote appropriate standards of quality for Emergency Medical Technician-Paramedic educational programs and to provide recognition for educational programs which meet or exceed the minimum standards outlined in these Essentials. Lists of accredited programs are published for the information of students, employers, educational institutions and agencies, and the public.

These standards are to be used for the development, evaluation, and self-analysis of Emergency Medical Technician-Paramedic programs. On-site review teams assist in the evaluation of a program's relative compliance with the Essentials.

Section I: General Requirements for Accreditation

A. Sponsorship

The sponsoring institution of an EMT-Paramedic program shall be an accredited postsecondary educational institution, such as a university, senior college, community college, vocational school, technical school, or adult educational center, or an appropriately accredited medical institution with adequate resources and dedication to educational endeavors.

Sponsorship may include educational programs sponsored by the United States Military which are appropriately associated with an accredited medical facility. Medical institutions should be accredited by the Joint Commission on Accreditation of Healthcare Organizations or meet comparable standards. Educational institutions should be appropriately accredited by recognized regional accrediting associations for higher education, or have state licensure which assures comparable educational standards.

B. Resources

1. Personnel

a. Administrative Personnel

(1) Program Director

(a) Responsibilities

The program shall have a full-time program director, while the program is in progress, whose primary responsibility is to the educational program and who contributes an adequate amount of time to assure the success of the program. In addition to other assigned responsibilities, the program director shall be responsible for the organization, administration, periodic review, continued development, and effectiveness of the educational program. The program director shall actively solicit and require the cooperative involvement of the medical director of the program.

(b) Qualifications or Equivalents

The program director shall have appropriate training and experience to fulfill the role as program director.

The program director should have at least equivalent academic training and preparation, and hold all credentials for which the students are being prepared in the program, or hold comparable credentials which demonstrate at least equivalent training and preparation.

The program director should have training and experience in education and evaluation and be knowledgeable in administration of education and related legislative issues for the prehospital provider.

The program director should assume ultimate responsibility for the administration of the didactic, clinical, and field internship phases of the program. It is the program director's responsibility to monitor all phases of the program and assure that they are appropriate and successful. The program director should collaborate fully with the medical director of the educational program.

(2) Medical Director

(a) Responsibilities

The program shall have an appointed medical director who must review and approve the educational content of the program curriculum and the quality of medical instruction and supervision delivered by the faculty. The medical director must routinely review each student's performance to assure adequate progress toward completion of the program. The medical director must attest that each graduating student has achieved the desired level of competence prior to graduation.

(b) Qualifications or Equivalents

The medical director shall be a licensed physician with experience and current knowledge of emergency care of acutely ill and traumatized patients. This individual must be familiar with base station operation including communication with, and direction of, prehospital emergency units. The medical director must be knowledgeable about EMT-Paramedic educational programs and the legislative issues regarding educational programs for the prehospital EMS provider.

The medical director should be an active member of the local medical community.

b. Instructional Faculty

The faculty shall be qualified through academic preparation, training, and experience to teach the courses or topics to which they are assigned.

A program should be able to provide evidence that each instructor is thoroughly qualified to instruct students in assigned topics. Appropriate expertise in the assigned topic should be assessed prior to initial appointment to the faculty and ongoing expertise should be monitored throughout a faculty member's tenure.

2. Financial Resources

Financial resources adequate for the continued operation of the educational program shall be ensured for each class of students enrolled.

The budget should reflect sound educational priorities including those related to the improvement of the educational process.

3. Physical Resources

a. Facilities

Classrooms, laboratories, and administrative offices shall be provided with sufficient space to accommodate the number of students matriculating in the program and the supporting faculty.

b. Equipment and Supplies

Sufficient supplies and equipment to be used in the provision of instruction shall be available and consistent with the needs of the curriculum and adequate for the students enrolled.

c. Learning Resources

Library resources, related to the curriculum, shall be readily accessible to students and shall include current EMT and medical periodicals, scientific books, audiovisual and self-instructional resources, and other references.

4. Clinical Resources

a. Clinical affiliations shall be established and confirmed in written affiliation agreements with institutions and agencies that provide clinical experience under appropriate medical direction and clinical supervision.

b. Students shall have access to patients who present common problems encountered in the delivery of advanced emergency care in adequate numbers and in distribution by sex and age.

c. Students shall be assigned in clinical settings where experiences are educationally efficient and effective in achieving the program's objectives.

d. Supervision in the clinical setting shall be provided by program instructors or hospital personnel, such as nurses or physicians, if they have been approved by the program to function in such roles. The ratio of students to instructors in the clinical facilities shall be adequate to assure effective learning.

e. A field internship shall occur within an emergency medical system which demonstrates medical accountability.

The clinical facility(ies) of the program should provide services commensurate with the type and level of practice throughout the nation and in sufficient volume and variety for the number of students receiving clinical education in each facility, and should include the operating room, recovery room, intensive care unit, coronary care unit, labor and delivery room, pediatrics, and emergency department, and include exposure to an adequate number of pediatric, obstetric, psychiatric, and geriatric patients. The clinical site should be periodically evaluated with respect to its continued appropriateness and efficacy in meeting the expectations of the program. Clinical affiliates should be accredited by or conform to the standards established by the Joint Commission on Accreditation of Healthcare Organizations.

Medical accountability exists when there is good evidence that the EMS provider is not operating as an independent practitioner, and when field personnel are under direct medical control of on-line physicians or in a system utilizing standing orders where timely medical audit and review provide for quality assurance.

The field internship experience should occur within an emergency medical service that involves EMT-Paramedics in the provision of advanced emergency medical care services and that maintains a defined program of continuing education for its personnel.

C. Students

1. Admission Policies and Procedures

Admission of students shall be made in accordance with clearly defined and published practices of the institution. Specific academic, health related, and/or technical requirements for admission shall also be clearly defined and published. The standards and/or prerequisites must be made known to all potential program applicants.

Programs are encouraged to develop objective, success-related admission standards and/or prerequisites.

2. Evaluation

a. Evaluation of students shall be conducted on a recurring basis and with sufficient frequency to provide both the student and program faculty with valid and timely indicators of the student's progress toward and achievement of the competencies and objectives stated in the curriculum.

b. Methods

The methods used to evaluate students shall verify the achievement of the objectives stated in the curriculum. Evaluation methods, including direct assessment of student competencies in patient care environments, shall be appropriate in design to assure valid assessment of competency. Evaluation methods must be consistent with the competencies and objectives being tested.

c. Review

In order to ensure effectiveness of student evaluation, the test instruments and evaluation methods shall undergo frequent review. When appropriate, reviews must result in the update, revision, or formulation of more effective test instruments or evaluation methods.

The evaluation system should verify student achievement of the competencies and objectives. Students should have ample time to correct identified deficiencies in knowledge and/or performance prior to completion of the program.

3. Health

The program officials shall be responsible for establishing a procedure for determining that the applicants' or students' health will permit them to meet the written technical standards of the program. Students must be informed of and have access to the usual student health care services of the institution. The health and safety of students, faculty, and patients associated with educational activities must be adequately safeguarded.

4. Guidance

Academic counseling services shall be accessible to all students.

Programs should have student guidance procedures that include documentation of regular and timely discussions with qualified faculty and counselors of student strengths, weaknesses, and progress in the program and provide evidence that students are informed of fair practices, due process with regard to admission/retention policies, unfavorable evaluations, and disciplinary policies such as those for suspension and dismissal.

5. Disclosure

a. Accurate information regarding program requirements, tuition and fees, institutional and programmatic policies, procedures, and supportive services shall be available to all prospective students and provided to all enrolled students.

b. There shall be a descriptive synopsis of the current curriculum on file and available to candidates and enrolled students.

c. There shall be a statement of course objectives, copies of course outlines, class and laboratory schedules, clinical and field internship experience schedules, and teaching plans on file and available.

Every program should make documents available (catalogue, brochure, handbook) which clearly and accurately describe the course of instruction and the requirements for graduation. These materials should also describe all costs to be borne by the student and all services to which the costs entitle the student. Student travel and transportation requirements should be clearly stated. Prospective class and laboratory schedules, clinical rotation requirements, and field internship obligations should be described.

6. Identification

Students shall be clearly identified by name and student status, using nameplate, uniform, or other apparent means to distinguish them from other personnel.

D. Operational Policies

1. Fair Practices

a. Announcements and advertising must accurately reflect the program offered.

b. Student and faculty recruitment and student admission and faculty employment practices shall be non-discriminatory with respect to race, color, creed, sex, age, disabling conditions (handicaps), and national origin.

c. Academic credit and costs to the student shall be accurately stated, published, and made known to all applicants.

d. The program or sponsoring institution shall have a defined and published policy and procedure for processing student and faculty grievances.

e. Policies and processes for student withdrawal and for refunds of tuition and fees shall be published and made known to all applicants.

f. Policies and processes by which students may perform service work while enrolled in the program must be published and made known to all concerned in order to avoid practices in which students are substituted for regular staff. Students may not take the responsibility or the place of qualified staff. However, after demonstrating proficiency, students may be permitted to undertake certain defined activities (perform procedures) with appropriate supervision and direction. Students may be employed in the field of study outside regular educational hours, provided the work does not interfere with regular academic responsibilities. The work must be non-compulsory, paid, and subject to standard employee policies (regulations).

g. The health and safety of patients, students, and faculty associated with the educational activities of the students must be adequately safeguarded.

2. Student Records

Satisfactory records shall be maintained for student admission, attendance, academic counseling, and evaluation. Grades and credits for courses shall be recorded and permanently maintained by the sponsoring institution.

All other student records should be maintained for approximately five years, in order to facilitate research, appropriate student assessment, and graduate success.

There shall be:

a. evidence of high school graduation or graduate equivalent (GED) in each student's file.

b. evidence of satisfactory completion of all didactic, clinical, and field internship requirements for each student including:

- (1) a record of class and practice participation, and
- (2) evidence of competencies attained throughout the education and training program.

c. copies of examinations and assessments throughout the education and training program.

Section I
continued

E. Program Evaluation

1. Purpose and Frequency

The program shall periodically assess its effectiveness in achieving its stated goals and objectives.

2. Methods

Program evaluation methods shall emphasize gathering and analyzing data on the effectiveness of the program in developing competencies consistent with the stated program goals and objectives.

The review of measurement techniques and evaluation methods is a necessary component to verify program effectiveness. Appraisal techniques such as task analysis of skills, content validity, test analysis with discrimination and difficulty indices, graduate performance, student comment, and instructor observation are appropriate.

Program personnel should gather information from as many sources as possible because a single source of data cannot be expected to provide conclusive findings. Documented internal evaluation should take place with each class. The cumulative results should be incorporated into the program, as well as into the self-study, site visit, and other accreditation processes or reports.

Program evaluation may be accomplished through a variety of methods, such as surveys of current and former students, follow-up studies of graduate employment and credentialling examination performance, and input from the various groups representing the program's communities of interest.

3. Utilization

The results of program evaluation shall provide the basis for ongoing planning and appropriate change.

Section II: Specific Requirements for Accreditation

A. Description of the Profession

The Emergency Medical Technician-Paramedic (EMT-P) provides prehospital emergency care under medical command authority to acutely ill and/or injured patients and/or transports patients by ambulance or other appropriate emergency vehicle. The EMT-P should demonstrate: (1) an awareness of abilities and limitations; (2) the ability to relate to people; and (3) the capacity to make rational patient-care decisions under stress.

To fulfill the role of the EMT-P, an individual must be able to:

1. recognize a medical emergency; assess the situation; manage emergency care and, if needed, extricate; coordinate efforts with those of other agencies that may be involved in the care and transportation of the patient; and establish rapport with the patient and significant others to decrease their state of anxiety;

2. assign priorities to emergency treatment data for the designated medical command authority, or assign priorities of emergency treatment;

3. record and communicate pertinent data to the designated medical command authority;

4. initiate and continue emergency medical care under medical control, including the recognition of presenting conditions and initiation of appropriate treatments, including traumatic and medical emergencies, airway and ventilation problems, cardiac dysrhythmias, cardiac standstill, and psychological crises, and assess the response of the patient to that treatment, modifying medical therapy as directed;

5. exercise personal judgment and provide such emergency care as has been specifically authorized in advance, in cases where medical direction is interrupted by communication failure or in cases of immediate life threatening conditions;

6. direct and coordinate the transport of the patient by selecting the best available method(s) in conjunction with medical command authority;

7. record, in writing or dictate, the details related to the patient's emergency care and the incident; and

8. direct the maintenance and preparation of emergency care equipment and supplies.

B. Curriculum

The curriculum shall consist of three components: didactic instruction, including skills laboratory; in-hospital clinical practice; and a supervised field internship in an advanced life support unit which functions under a medical command authority.

1. Program Goals and Objectives

There shall be a written statement of program goals and program objectives consistent with and responsive to the demonstrated needs and expectations of the various communities it serves.

Statements of goals and objectives provide the basis for program planning, implementation, and evaluation. They should be rationally derived and compatible with both the mission of the sponsoring institution(s) and the expectations of the health care community.

A goal is a mission statement for the program. An objective is a measurable indicator of attainment of graduate success in attaining the program goal or goals.

A program should regularly assess its goals and objectives for appropriateness and demonstrate an ability to identify and respond to changes in the needs and/or expectations of the various communities it serves.

An advisory committee, or similarly constituted group representing communities of interest (individuals, groups of individuals, or institutions impacted by this program) should be designated and charged with assisting program and sponsoring institutional personnel in formulating appropriate goals and standards, monitoring needs and expectations, and ensuring program responsiveness to change.

2. Content

The curriculum shall include at least the knowledge and skills necessary to prepare the student for entry level competencies as described in the "Description of the Profession." The curriculum must follow planned outlines and be appropriately sequenced with lecture, laboratory, clinical, and field experience to assure efficient learning opportunities for every student. Successful completion of the course must assure attainment of basic theoretical and scientific knowledge reflective of state of the art patient care. The curriculum shall include content which provides a basis for knowledge and skill development for the following areas as they pertain to the prehospital emergency care of adults, adolescents, children, and infants.

a. Clinical knowledge in the following systems and areas, and ability to relate that knowledge to the associated skills.

- (1) The cardiovascular system, including recognition of dysrhythmias, myocardial ischemia, and congestive heart failure
- (2) The respiratory system, including acute airway obstruction, pneumothorax, chronic obstructive pulmonary disease, reactive airway disease, and respiratory distress
- (3) Trauma to head, neck, chest, spine, abdomen, pelvis, and extremities
- (4) Medical emergencies, including acute abdominal disease, infections, diabetes mellitus, and allergic reactions
- (5) The central nervous system, including stroke, seizures, and alterations in levels of consciousness
- (6) Obstetrical cases and emergencies, including complications of the 2nd and 3rd trimesters of pregnancy; bleeding, eclampsia, and precipitous delivery
- (7) Pediatric cases and emergencies, including croup, epiglottitis, dehydration, child abuse, meconium aspiration, and care of the newborn
- (8) Psychiatric emergencies and crisis intervention techniques, including problems such as the suicidal, assaultive, destructive, resistant, anxious, bizarre, confused, amnesic, or paranoid
- (9) Drug-related problems, including alcohol, drug-addiction, or overdose
- (10) Sexual assault and abuse
- (11) Special situations, including carbon monoxide and other noxious inhalations, poisonings, near-drownings, over-exposure to heat and cold, electrocution, burns, and exposure to hazardous situations and materials

b. Airway Management

- (1) Use of nasal, oral, and other airway management techniques and devices
- (2) Endotracheal intubation; must include observation of airway management and intubation in the operating room, and endotracheal intubation on live patients
- (3) Suctioning

Training for intubation may include practice on mannequins, animals, or cadavers. Live intubations should be under the direction of trained anesthesia personnel on live patients in the operating room.

c. Ventilatory Support

- (1) Mouth-to-mouth ventilation
- (2) Mouth-to-device ventilation
- (3) Use of bag-valve mask
- (4) Use of other artificial ventilatory devices
- (5) Use of oxygen administration devices

d. Circulation and Shock

- (1) Basic life support techniques
- (2) Establish intravenous cannulation
- (3) Vagal stimulation techniques
- (4) Cardiac monitor lead placement
- (5) Cardiac rhythm interpretation

(6) Synchronized and unsynchronized cardioversion and defibrillation

(7) Pneumatic antishock garment

(8) Control of bleeding

(9) Bandaging (including burns, impaled objects, avulsion, evisceration)

e. Clinical Assessment

(1) Obtain pertinent patient history

(2) Perform physical examination (including inspection, palpation, and auscultation)

(3) Rapid extrication and transport

(4) Prioritize patient care

(5) Triage multiple casualties

f. Fractures and Dislocations

(1) Spinal immobilization

(2) Use of patient extrication devices

(3) Splinting and traction

g. Administration of Medication

(1) Preparation of dosage

(2) Inhaled

(3) Nebulized

(4) Endotracheal

(5) Injection (intramuscular, subutaneous)

(6) Intravenous

(7) Topical

(8) Oral (including sublingual)

h. Obstetrical Emergencies

(1) Techniques of delivery

(2) Neonatal resuscitation

(3) Fundus massage

Students should be exposed to labor and delivery process through observation of live delivery and demonstrate all technical skills through simulation or mannequin techniques.

i. Communication

(1) Field communication equipment

(2) Accurate and appropriate patient information

(3) Accurate and appropriate response to verbal and standing orders

(4) Accurate written reports

(5) Emergency scene management

(6) Patient and family interpersonal communication skills (including crisis intervention)

(7) Professional communication skills

j. General

(1) Legal, professional, and ethical considerations of the EMT-P

(2) Development of interpersonal skills of the EMT-P

(3) Safety, psychological, and health hazards to the EMT-P

(4) Pharmacology, including indications, contraindications, and side effects

3. Field Internship

The field internship of the program shall occur within an emergency medical system which demonstrates medical accountability. The student must be under direct supervision of preceptors who are designated by the program and who are paramedics, nurses, or physicians. The program will assure that there is appropriate, objective evaluation of student progress in acquiring the desired competencies developed through this experience. The experience shall occur on an intensive care vehicle within an EMS system that has the capability of voice telecommunications with on-line medical direction and is equipped with equipment and drugs necessary for advanced life support.

Enough of the field internship experience shall occur following the completion of the didactic and clinical phases of the program to assure that by completion of this portion of the program, each student will achieve the desired competencies of the curriculum. Adequate manpower must be available within the EMS system to assure that the assigned student is never a substitute for paid personnel or a required team member.

The field internship provides the student with a progression of increasing patient care responsibilities and which proceeds from observational experience to working as a member of the team. Responsibilities of the student on the prehospital care team should be progressive and integrated with the program curriculum. Opportunities for attainment of the required competencies should be available to assure adequate progress and experience in all phases of prehospital care. Over half of the field internship should occur following completion of the didactic and clinical phases of the program.

Section III: Maintaining and Administering Accreditation

A. Program and Sponsoring Institution Responsibilities

1. Applying for Accreditation

The accreditation review process conducted by the Committee on Allied Health Education and Accreditation (CAHEA) can be initiated only at the written request of the chief executive officer or an officially designated representative of the sponsoring institution.

This process is initiated by requesting an application form from and returning it to the

Division of Allied Health Education
and Accreditation
American Medical Association
515 N State Street
Chicago, Illinois 60610

The JRCEMT-P requires the submission of a **Self-Study Report** and appropriate fees.

An institution sponsoring a program may voluntarily withdraw from the CAHEA accreditation system at any time.

2. Administrative Requirements for Maintaining Accreditation

To maintain accreditation, the following actions are required:

a. The program must submit a **Self-Study Report** or a required progress report within a reasonable period of time, as determined by the JRCEMT-P.

b. The program must agree to a reasonable site visit date before the end of the period for which accreditation was awarded.

c. The program must inform the JRCEMT-P within a reasonable period of time of changes in required program personnel.

d. The sponsor institution must inform CAHEA and the JRCEMT-P of its intent to transfer program sponsorship, in accord with CAHEA policy.

e. The program and the sponsor institution must pay JRCEMT-P and CAHEA accreditation fees within a reasonable period of time, as determined by the accreditation review committee and CAHEA, respectively.

f. The program must complete and return by the established deadline the Annual Report provided by CAHEA, to insure an accurate listing of the program and its sponsoring institution in the annual publication of the national directory of CAHEA-accredited programs.

Failure to meet these administrative requirements for maintaining accreditation may lead to being placed on Administrative Probation and ultimately to having accreditation withdrawn.

B. CAHEA/JRCEMT-P Responsibilities

1. Administering the Accreditation Review Process

At the written request of the chief executive officer or other officially designated representative, CAHEA and the JRCEMT-P assess an applicant program's relative compliance with the **Essentials.**

The accreditation review process includes an on-site evaluation of the program. If the performance of a site visit team is unacceptable, the institution may request a second site visit.

Before the JRCEMT-P formulates its accreditation recommendation to CAHEA, the sponsoring institution is given an opportunity to comment in writing on the report of the site visit team and to correct factual errors.

Before transmitting a recommendation for Probationary Accreditation to CAHEA, the JRCEMT-P provides the sponsoring institution with an opportunity to request reconsideration of the recommendation. Reconsideration is based on conditions existing when the JRCEMT-P arrived at its recommendation to CAHEA and on subsequent documented evidence of corrected deficiencies provided by the applicant.

CAHEA awards of Probationary Accreditation are final and are not subject to further appeal.

2. Withholding or Withdrawing Accreditation

Before recommending to CAHEA that accreditation be withheld or withdrawn, the JRCEMT-P provides the sponsoring institution with an opportunity to request reconsideration. Decisions to withhold or withdraw accreditation may be appealed. A copy of the CAHEA appeals procedures for Accreditation Withheld or Withdrawn accompanies the letter notifying the sponsoring institution of one of these actions. When accreditation is withdrawn, the institutional sponsor's chief executive officer is provided with a clear statement of each deficiency in the program's relative compliance with the **Essentials** and is informed that application for accreditation as a new applicant may be made whenever the program considers itself to be in compliance with the **Essentials.**

All students who have successfully completed a program granted any accreditation status at any point during their enrollment are regarded as graduates of a CAHEA-accredited program.

3. Inactive Programs

The sponsoring institution may request inactive status for a program that does not enroll students for up to two years. The program and its sponsoring institution must continue to pay required annual fees. Should a program be inactive for two years and not be reactivated, it will be considered discontinued and accreditation will be withdrawn.

THE FOLLOWING ARTICLES WERE REMOVED FROM APPENDIX D
PRIOR TO ITS BEING SUBMITTED TO THE
ERIC DOCUMENT REPRODUCTION SERVICE

THE ARTICLES CAN BE FOUND IN

Article 56 General Statutes of North Carolina (Revisions through April 26, 1989).

Article 57 General Statutes of North Carolina (Revisions through April 26, 1989).

North Carolina Administrative Code T21:32H (February 22, 1990).

North Carolina Administrative Code T10:03D (December 11, 1989).

Pages 429-480

APPENDIX E

EMERGENCY MEDICAL SCIENCE PROGRAM
HOSPITAL CLINICAL EVALUATION FORM

STUDENT: ____________ COURSE: EMS ______ DATE: ____/____/____

AREA OF ROTATION: ________________ HOSPITAL: ________________

SCALE: 0 = Failed 1 = Poor 2 = Average 3 = Good 4 = Superior

PROFESSIONAL DEVELOPMENT	0	1	2	3	4	*COMMENTS*
1) *Shows Motivation*	☐	☐	☐	☐	☐	
2) *Seeks Learning Experiences*	☐	☐	☐	☐	☐	
3) *Cooperates With Staff*	☐	☐	☐	☐	☐	
4) *Follows Directions*	☐	☐	☐	☐	☐	
5) *Displays Positive Attitude*	☐	☐	☐	☐	☐	
6) *Actively Participates*	☐	☐	☐	☐	☐	
COMMUNICATION SKILLS						
1) *Communicates Accurately*	☐	☐	☐	☐	☐	
2) *Displays Caring And Concern*	☐	☐	☐	☐	☐	
3) *Shows Empathy To Patients*	☐	☐	☐	☐	☐	
TECHNICAL SKILLS						
1) *Accurate Use Of Equipment*	☐	☐	☐	☐	☐	
2) *Accuracy In Participation*	☐	☐	☐	☐	☐	
3) *Safety, Handwashing Habits*	☐	☐	☐	☐	☐	
4) *Ability To Evaluate Anatomy*	☐	☐	☐	☐	☐	
5) *Overall Quality Of Work*	☐	☐	☐	☐	☐	
ASSESSMENT SCORE						
1) *Written Patient Evaluation*	☐	☐	☐	☐	☐	

PROFESSIONAL DEVELOPMENT TOTAL = ___ / 6 * 25% = _____
COMMUNICATIONS SKILLS TOTAL = ___ / 3 * 25% = _____
TECHNICAL SKILLS TOTAL = ___ / 5 * 25% = _____
ASSESSMENT SCORE TOTAL = ___ / 1 * 25% = _____
==
FINAL GRADE = _____

GRADE

SCALE ON BACK

PRECEPTOR: ______________ *STUDENT:* ______________

APPENDIX F

Emergency Medical Science Program
Clinical Evaluation

Student: ______________________________

Clinical Affiliate: ______________________________ Term: __________

Complete this evaluation according to the scale on the right. For each trait, circle the evaluation most closely matching the student's performance.

5	Applies 90-100% of the time
4	Applies 80- 89% of the time
3	Applies 70 - 79% of the time
2	Applies 60 - 69% of the time
1	Applies less than 60% of the time
0	Not applicable or insufficient data

5%	1.	APPEARANCE: Neat, clean and appropriately dressed	5	4	3	2	1	0
5%	2.	ATTENDANCE: Punctual; proper notification made for absence	5	4	3	2	1	0
	3.	ATTITUDE/RESOURCEFULNESS:						
5%		a. Willing and eager to learn and to participate in all phases of health care delivery and job responsibility	5	4	3	2	1	0
5%		b. Looks for learning experiences, uses time efficiently, asks appropriate questions	5	4	3	2	1	0
10%	4.	ORGANIZATION: Able to use a systematic approach to patient evaluation and care	5	4	3	2	1	0
5%	5.	PATIENT ASSESSMENT: Able to perform thorough patient assessment and to use the clinical findings to recognize specific medical conditions	5	4	3	2	1	0
10%	6.	DEFINITIVE CARE: Able to choose and accurately deliver appropriate therapeutic modalities for specific medical conditions	5	4	3	2	1	0
10%	7.	OVERALL SKILL PERFORMANCE: Demonstrates proper technique, accuracy, care of equipment, and application of theoretical concepts	5	4	3	2	1	0

8. PROFESSIONAL DEVELOPMENT:

10%	a.	Establishes rapport with patient and patient's family; demonstrates sensitivity to their verbal and non-verbal responses	5	4	3	2	1	0
5%	b.	Explains procedures in a comprehensible and reassuring manner	5	4	3	2	1	0
5%	c.	Works well with others as part of the health care team	5	4	3	2	1	0
5%	d.	Uses discretion in discussion of personal matters involving affiliate personnel, patients, visitors, and other students	5	4	3	2	1	0
5%	e.	Reacts appropriately to various situations demonstrating composure, patience, and use of appropriate comments	5	4	3	2	1	0
5%	f.	Demonstrates flexibility: (i.e. change of assignment, new situations, interruptions, etc.)	5	4	3	2	1	0
10%	g.	Aware of role as a student including limitations and expectations; acceptance of constructive criticism; utilizes suggestions for improvement; asks for advise when unsure	5	4	3	2	1	0

Comments: (general, strengths, needs for improvement, etc.)

____

____

____

____

____

____

Signature: ______________________________ Date: ______________

APPENDIX G

EMS 104 AMBULANCE CLINICAL EVALUATION

Student__________________ Preceptor__________________ Date____________

1. Skill Performance						
A. Physical assessment						
1. Primary survey	0	1	2	3	4	N.O.
Comments						
2. Secondary survey	0	1	2	3	4	N.O.
Comments						
3. Vital signs	0	1	2	3	4	N.O.
Comments						
B. Patient history	0	1	2	3	4	N.O.
Comments						
C. Triage	0	1	2	3	4	N.O.
Comments						
D. Airway	0	1	2	3	4	N.O.
Comments						
E. Hemorrhage control	0	1	2	3	4	N.O.
Comments						
F. CPR	0	1	2	3	4	N.O.
Comments						
G. O2 administration	0	1	2	3	4	N.O.
Comments						
H. MAST	0	1	2	3	4	N.O.
Comments						
I. Splinting	0	1	2	3	4	N.O.
Comments						
J. Radio operation/encoding	0	1	2	3	4	N.O.
Comments						
K. Returning unit to service	0	1	2	3	4	N.O.
Comments						
2. Interpersonal relationships						
A. Dependability	0	1	2	3	4	N.O.
Comments						
B. Appearance	0	1	2	3	4	N.O.
Comments						
C. Rapport with peers	0	1	2	3	4	N.O.
Comments						
D. Rapport with pt./families	0	1	2	3	4	N.O.
Comments						
E. Rapport with other professionals	0	1	2	3	4	N.O.
Comments						
F. Ability to work under supervision	0	1	2	3	4	N.O.
Comments						
G. Accepts constructive criticism	0	1	2	3	4	N.O.
Comments						
H. Level of initiative/enthusiasm	0	1	2	3	4	N.O.
Comments						
I. Utilization of time	0	1	2	3	4	N.O.
Comments						
J. Functional ability in emergency	0	1	2	3	4	N.O.
Comments						
	0	1	2	3	4	N.O.

Grading Scale for Ambulance Clinical

A	3.20-4.0
B	2.40-3.19
C	1.60-2.39
D	.80-1.59
E	.79

Rating Criteria

0 - F - Poor	Performance not complete and/or detrimental to the patient
1 - D - Needs Improvement	Performance not complete, but not detrimental to the patient
2 - C - Average	Performance complete and at the expected level for this practicum
3 - B - Above Average	Performance complete with above average proficiency
4 - A - Excellent	Performance completed with little or not assistance from instructor

Additional Comments: ____

____

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APPENDIX H

Emergency Medical Science

MICU Daily Performance Evaluation

Student ______________________________ Date ____________

Please evaluate the paramedic student's overall daily performance by circling the appropriate score for each item listed. Please comment on items evaluated poor or needs improvement.

	POOR	NEEDS IMPROVEMENT	AVERAGE	ABOVE AVERAGE	EXCELLENT	NOT APPLICABLE
A. Primary survey	1	2	3	4	5	NA
B. Secondary survey	1	2	3	4	5	NA
C. Status determination	1	2	3	4	5	NA
D. History taking	1	2	3	4	5	NA
E. Patient rapport	1	2	3	4	5	NA
F. Rapport with relatives, bystanders	1	2	3	4	5	NA
G. Rapport with partner/s	1	2	3	4	5	NA
H. BLS level care	1	2	3	4	5	NA
I. ALS level care	1	2	3	4	5	NA
J. Care during transport	1	2	3	4	5	NA
K. Radio reports	1	2	3	4	5	NA
L. Rapport with hospital personnel	1	2	3	4	5	NA

General Comments: ______________________________

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____
Signature of Preceptor

APPENDIX I

Emergency Medical Science

MICU ALS Skills Evaluation

	POOR	NEEDS IMPROVEMENT	AVERAGE	ABOVE AVERAGE	EXCELLENT
ALS Procedure #1 ____________________					
technique	1	2	3	4	5
accuracy	1	2	3	4	5
time	1	2	3	4	5
safety	1	2	3	4	5
* OVERALL RATING	*1	*2	*3	*4	*5
Comment ____________________					
ALS Procedure #2 ____________________					
technique	1	2	3	4	5
accuracy	1	2	3	4	5
time	1	2	3	4	5
safety	1	2	3	4	5
* OVERALL RATING	*1	*2	*3	*4	*5
Comment ____________________					
ALS Procedure #3 ____________________					
technique	1	2	3	4	5
accuracy	1	2	3	4	5
time	1	2	3	4	5
safety	1	2	3	4	5
* OVERALL RATING	*1	*2	*3	*4	*5
Comment ____________________					

* OVERALL RATING

1 Procedure not completed; detrimental to patient.
2 Procedure not completed; not detrimental to patient.
3 Procedure completed but procedure does not conform to standard practice; not detrimental to patient.
4 Procedure completed; no critical errors; not detrimental to patient.
5 Procedure completed; no errors.

APPENDIX J

EMT-PARAMEDIC TRAINING PROGRAM OUTLINE

The following represents the minimum contact hours necessary for each section of the EMT-Paramedic (EMT-P) training program. The time indicated does not include time for practical skills development and written examinations. The source for EMT-P training is the "Emergency Medical Technician - Paramedic: National Standard Curriculum published by the U. S. Department of Transportation.

I DIDACTIC TRAINING

DIVISION	SECTION	TITLE	TIME (hours)
I (Prehospital Environment)	1	Roles and Responsibilities	1
	2	EMS Systems	1
	3	Medical/Legal Considerations	1
	4	EMS Communications	3
	5	Rescue	4
	6	Major Incident Response	3
	7	Stress Management	2
II (Preparatory)	1	Medical Terminology	1
	2	General Patient Assessment and Initial Management	6
	3	Airway and Ventilation	8
	4	Pathophysiology of Shock	16
	5	General Pharmacology	6
III (Trauma)	1	Trauma	18
	2	Burns	2
IV (Medical)	1	Respiratory	12
	2	Cardiovascular	80
	3	Endocrine Emergencies	5
	4	Nervous System	2
	5	Acute Abdomen, Genitourinary, Reproductive Systems	3
	6	Anaphylaxis	1
	7	Toxicology, Alcoholism and Drug Abuse	5
	8	Infectious Diseases	2
	9	Environmental Injuries	6
	10	Geriatric/Gerontology	2
	11	Pediatrics	6
V (OB/GYN/ Neonatal)	1	OB/GYN/Neonatal	8
VI (Behavioral)	1	Behavioral Emergencies	8

(Revised November 1990)

In addition to the above references, additional time must be included for the following:

a) A minimum of nine written examinations with the following breakdown:

   1) 1 examination each for Divisions 1,2,3,5,6
   2) 3 examinations for Division 4
   3) 1 comprehensive final examination

b) A minimum of 40 hours for practical skills practice and evaluation

II CLINICAL

A minimum of 116 hours must be included in the clinical component of the EMT-P training program. The number of hours in each area of the clinical section shall be determined by the medical director and the training institution. The areas of the hospital clinical are as follows and all are mandatory with the exception of the morgue. The clinical experience must be precepted by a physician or registered nurse.

a) Emergency Department
b) ICU/CCU
c) Operatory/Recovery Room
d) Intravenous Team (if available)
e) Pediatric Unit
f) Labor Suite/Delivery Room/Newborn Nursery
g) Psychiatric Unit on Crisis Center
h) Morgue (recommended but not required)

III FIELD INTERNSHIP

A minimum of 180 hours shall be included in the field internship component of the EMT-P training program. The field internship component must be precepted by a physician or certified EMT-P.

IV SUCCESSFUL SKILL COMPLETION

Before successful completion of the EMT-P training program, the student must successfully perform the following skills during the hospital clinical or field internship while in direct contact with patients:

EMT-P SKILL	Number of Successful Attempts
a) Endotracheal Intubation	1
b) Intravenous Administration (Adult and Pediatric Combined)	10
c) Intravenous Drug Administration (Bolus and Drip Combined)	5
d) Subcutaneous Injections	2

(Revised November 1990)

EMT-P SKILL	Number of Successful Attempts
e) Intramuscular Injections	2
f) Sublingual Drug Administration	2
g) Venipuncture	2
h) Patient Assessment	
1) Adult	10
2) Neonatal and Pediatric Combined	10
i) Suctioning Techniques	
1) Oropharyngeal	2
2) Tracheal	2
j) Defibrillation	2
k) ECG Interpretation	10
l) External Cardiac Pacing	1

CLINICAL NOTES:

1. If a training program can not reasonably provide all mandatory clinical settings, the program must request an exception from the Office of Emergency Medical Services.

2. Subcutaneous and intramuscular injections must be performed on a live patient, but students in the classroom setting may be used to satisfy this requirement if appropriate patients are not available in the hospital clinical or field internship sections of the training program.

3. The endotracheal intubation should be accomplished on a patient. In exceptional cases, i.e., when a student has completed a significant higher number of hours during the field internship and hospital clinical, the substitution of a training manikin in lieu of the patient may be allowed. The request for an exception should originate from the medical director of the training program and be forwarded to the Office of Emergency Medical Services for approval/disapproval.

4. Defibrillation on patients is preferred, but manikin simulation may be allowed if approved by the medical director of the training program if appropriate patients are not available in the hospital clinical or field internship sections of the training program.

5. External cardiac pacing may be accomplished by either using patients or manikins. Patients are preferred over manikins if available during the hospital clinical or field internship.

6. If intravenous administration, subcutaneous injections, venipunctures, intravenous drug administration, sublingual drug administration suctioning techniques (oropharyngeal and tracheal), endotracheal intubation, defibrillation, ECG interpretation, and external cardiac pacing have been previously completed in a training program or if a person is certified to perform these skills, the medical director may waive these skills from the clinical requirements. The course outline should reflect the waiver of skills if approved by the medical director of the training program.

(Revised November 1990)

V EMT-PARAMEDIC TRAINING PROGRAM SUMMARY

The following represents a summary of areas and recommended minimum times for EMT-P training program:

a)	EMT-P didactic training	-	212 hours
b)	9 written examinations	-	10 hours
c)	Skills practice and evaluation	-	40 hours
d)	Hospital Clinical	-	116 hours
e)	Field Internship	-	180 hours
		EMT-P Total	558 hours

VI SUBMISSION OF AN EMT-P TRAINING PROGRAM OUTLINE

The following format should be used when submitting an EMT-P training program outline for review and approval:

Date	Time	Div.	Section	Objectives	Hours	Instructor
10/14/91	7-10 pm	1	Roles and Responsibilities	1.1.1-1.1.21	1	A. Brown, EMT-P
			EMS Systems	1.2.1-1.2.23	1	A. Brown, EMT-P
			Medical/Legal Considerations	1.3.1-1.3.7	1	A. Brown, EMT-P
10/16/91	7-10 pm	1	EMS Communications	1.4.1-1.3.30	3	J. Hooks, MD
10/21/91	7-10 pm	1	Rescue	1.5.1-1.5.8	3	G. Thompson
10/24/91	7-10 pm	1	Rescue	1.5.9-1.5.11	1	G. Thompson
			Major Incident Response	1.6.1-1.6.7	2	J. Cohn, EMT-P
10/28/91	7-10 pm	1	Major Incident Response	1.6.8-1.6.13	1	J. Cohn, EMT-P
			Stress Management	1.7.1-1.7.13	2	E. Simpson, MD
10/31/91	7-10 pm	1	Review of Division I		2	A. Brown, EMT-P
			Written Examination for Division I		1	A. Brown, EMT-P

Prior to submitting the EMT-P course outline to the Office of Emergency Medical Services Regional Office for review and approval, please insure that the following items are included:

1. A letter of support from the physician medical director of the mobile intensive care program.

2. A brief description of the clinical and field internship requirements, i.e., the minimum number of hours, the required skills, certification/licensure level of course preceptors, etc.

3. A course outline that follows the sample format above. Inclusion of dates, times, correct titles, objectives, and hours of instruction must be included. In addition, the written examinations and practical skills practice must be identified in the course outline.

VII ORDERING INFORMATION

Superintendent of Documents
Government Printing Office
Washington, D. C. 20402
Telephone: (202) 783-3238

Make check or money order payable to "Superintendent of Documents"

Document: Emergency Medical Technician - Paramedic: National Standard Curriculum

Instructor's Lesson Plans 050-003-00430-8	$32.00
Course Guide 050-003-00431-6	$ 1.50

APPENDIX K

EMT-ADVANCED INTERMEDIATE TRAINING PROGRAM OUTLINE

The following represents the minimum contact hours necessary for each unit of the EMT-Advanced Intermediate (EMT-AI) training program.

I DIDACTIC TRAINING

UNIT	TITLE	TIME(hours)
1	The EMT-AI Roles and Responsibilities	2
2	Respiratory System and Airway Management	9
3	Pharmacology	12
4	Cardiovascular System	6
5	Basic Principles of Electrocardiography	6
6	Dysrhythmia Recognition	18
7	Defibrillation and External Cardiac Pacing	6
8	Management of Cardiac Dysrhythmias, Respiratory, and Cardiovascular Emergencies	12
9	Communication Skills	3
10	Review of Basic Life Support and Advanced Life Support Skills	3
11	Final Examination	3

The above outline contains a minimum of 80 hours which includes time for written examinations and practical skill development. A minimum of six written examinations shall be administered with the following breakdown:

a) 1 examination for Units 1 and 2
b) 1 examination for Unit 3
c) 3 examinations for Units 4 - 8
d) 1 comprehensive final examination

II CLINICAL

The clinical areas should include a minimum of 72 hours in the emergency department or other appropriate areas as defined by the medical director and the teaching institution. The clinical experience must be precepted by a physician or registered nurse.

III FIELD INTERNSHIP

A minimum of 72 hours shall be included in the field internship component of the EMT-AI training program. The field internship component must be precepted by a physician, EMT-AI, or EMT-P.

(Revised November 1990)

IV SUCCESSFUL SKILL COMPLETION

Before successful completion of the EMT-AI training program, the student must successfully perform the following skills during the hospital clinical or field internship while in direct contact with patients.

	EMT-AI SKILL	NUMBER OF SUCCESSFUL ATTEMPTS
a)	Endotracheal Intubation	1
b)	Intravenous Administration (Adult and Pediatric Combined)	10
c)	Intravenous Drug Administration (Bolus and Drip Combined)	5
d)	Subcutaneous Injections	2
e)	Sublingual Drug Administration	2
f)	Venipuncture	5
g)	Patient Assessment	
	1) Adult	10
	2) Neonatal and Pediatric Combined	5
h)	Suctioning Techniques	
	1) Oropharyngeal	2
	2) Tracheal	2
i)	Defibrillation	2
j)	ECG Interpretation	10
k)	External Cardiac Pacing	1

CLINICAL NOTES:

1. Subcutaneous injections must be performed on a live patient, but students in the classroom setting may be used to satisfy this requirement if appropriate patients are available in the hospital clinical or field internship sections of the training program.

2. The endotracheal intubation should be accomplished on a patient. In exceptional cases, i.e. when a student has completed a significant higher number of hours during the field internship and hospital clinical, the substitution of a training manikin in lieu of the patient may be allowed. The request for an exception should originate from the medical director of the training program and be forwarded to the Office of Emergency Medical Services for approval/disapproval.

3. Defibrillation on patients is preferred, but manikin simulation may be allowed if approved by the medical director of the training program if

appropriate patients are not available in the hospital clinical or field internship sections of the training program.

4. External cardiac pacing may be accomplished by either using patients or manikins. Patients are preferred over manikins if available during the hospital clinical or field internship.

5. If intravenous administration, subcutaneous injections, and venipunctures have been previously completed in a training program or if a person is certified to perform these skills, the medical director may waive these skills from the clinical requirements. The course outline should reflect the waiver of skills if approved by the medical director of the training program.

V EMT-ADVANCED INTERMEDIATE PROGRAM SUMMARY

The following represents a summary of areas and recommended minimum times for the EMT-AI training program:

a) EMT-AI didactic, written exams and practical skills	-	80 hours
b) Hospital clinical	-	72 hours
c) Field internship	-	72 hours
	EMT-AI Total	224 hours

VI SUBMISSION OF AN EMT-AI TRAINING PROGRAM OUTLINE

The following format should be used when submitting an EMT-AI training program outline for review and approval:

Date	Time	Unit	Objectives	Hours	Instructor
		Course Registration and Requirements		1	
11/7/91	7-10 pm	(1) Roles and Responsibilities	1.01-1.34	2	C. Brown, EMT-P
11/12/91	7-10 pm	(2) Respiratory System and Airway Management	2.01-2.10	3	J. Bell, M.D.
11/14/91	7-10 pm	(2) Respiratory System and Airway Management	2.11-2.35	3	J. Bell, M.D.
11/19/91	7-10 pm	(2) Respiratory System and Airway Management Written Units 1-2	2.11.-2.35	3	J. Bell, M.D.
11/21/91	7-10 pm	(3) Pharmacology	3.01-3.16	3	M. Jones, R.N.

Prior to submitting the EMT-AI course outline to the Office of Emergency Medical Services Regional Office for review and approval, please insure that the following items are included:

1. A letter of support from the physician medical director of the mobile intensive care program.

2. A brief description of the clinical and field internship requirements, i.e., the minimum number of hours, the required skills, certification/licensure level of course preceptors, etc.

3. A course outline that follows the sample format above. Inclusion of dates, times, correct section titles, objectives, and hours of instruction must be included. In addition the written examinations must be identified in the course outline.

VII ORDERING INFORMATION

N.C. Department of Human Resources
Division of Facility Services
Office of Emergency Medical Services
701 Barbour Drive
Raleigh, N. C. 27603
Telephone: (919) 733-2285

Document: EMT-Advanced Intermediate Training Program Outline with Instructional Objectives - NO CHARGE

APPENDIX L

EMT-INTERMEDIATE TRAINING PROGRAM OUTLINE

The following represents the minimum contact hours necessary for each section of the EMT-Intermediate (EMT-I) training program. The time indicated does not include time for written examinations.

I DIDACTIC TRAINING

SECTION	TITLE	TIME(hours)
1	Roles and Responsibilities	2
2	EMS Systems/Medical Control	2
3	Medical/Legal Considerations	2
4	Medical Terminology	1
5	EMS Communications	2
6	General Patient Assessment and Initial Management (including administration of 50% Dextrose)	18
7	Airway Management and Ventilation	3
8	Assessment and Management of Shock (including anaphylaxis)	6
9	Defibrillation (Automatic/Semi-Automatic) (Refer to N. C. EMT-D Initial Training Program Outline)	9

In addition to the above time references, five hours of additional time must be included for five written examinations including a comprehensive final written examination.

II CLINICAL

The clinical areas shall include a minimum of 24 hours in the emergency department, with an intravenous team if available, or other appropriate areas as defined by the medical director and the teaching institution. The clinical experience must be precepted by a physician or registered nurse.

III FIELD INTERNSHIP

A minimum of 24 hours shall be included in the field internship component of the EMT-I training program. The field internship component must be precepted by a physician, EMT-I, EMT-AI, or EMT-P. If it appears that the local field internship will not provide positive learning experience, the medical director will have the option of requesting a waiver of the field internship requirements from the Office of Emergency Medical Services. In the event a waiver is requested, the medical director shall outline how the experiences and evaluation processes included in the field internship will be accomplished.

(Revised November 1990)

IV SUCCESSFUL SKILL COMPLETION

Before successful completion of the EMT-I training program, the student must successfully perform the following skills during the hospital clinical or field internship while in direct contact with patients.

EMT-I SKILL	NUMBER OF SUCCESSFUL ATTEMPTS
a) Patient Assessment	
1) Adult	10
2) Neonatal and pediatric combined	5
b) Intravenous Administration (Adult and Pediatric Combined)	10
c) Subcutaneous Injections	2
d) Venipuncture	5
e) Administer 50% Dextrose	2

CLINICAL NOTES:

1. Subcutaneous injections must be performed on a live patient, but students in the classroom setting may be used to satisfy this requirement if appropriate patients are not available in the hospital clinical or field internship sections of the training program.

2. The administration of 50% Dextrose is recommended for live patients but simulation may be used if appropriate patients are not available in the hospital clinical or field internship setting.

V EMT-INTERMEDIATE TRAINING PROGRAM SUMMARY

The following represents a summary of areas and recommended minimum times for the EMT-I training program:

a) EMT-I didactic and practical skills	-	45 hours
b) Written examinations	-	5 hours
c) Hospital clinical	-	24 hours
d) Field internship	-	24 hours
	EMT-I Total	98 hours

VI SUBMISSION OF AN EMT-I TRAINING PROGRAM OUTLINE

The following format should be used when submitting an EMT-I Training program outline for review and approval:

Date	Time	Section	Objectives	Hours	Instructor
3/19/91	7-10 pm	(1) Rules and Responsibilities	1.1.1-1.1.21	2	C. Kirk, M.D.
		(2) EMS Systems/ Medical Control	1.2.1-1.2.9	1	C. Kirk, M.D.
3/21/91	7-10 pm	(2) EMS Systems/ Medical Control	1.2.10-1.2.23	1	C. Kirk, M.D.
		(3) Medical/Legal	1.3.1-1.3.7	2	A. Batten
3/26/91	7-10 pm	(4) Medical Terminology	1.4.1-1.4.6	1	J. Matthews, EMT-P
		(5) EMS Communications	1.5.1-1.5.21	2	J. Matthews, EMT-P
3/28/91	7-10 pm	Review of Sections 1-5 Written Examinations Sections 1-5			C. Kirk, M.D.

Prior to submitting the EMT-I course outline to the Office of Emergency Medical Services Regional Office for review and approval please insure that the following items are included:

1. A letter of support from the physician medical director of the mobile intensive care program.

2. A brief description of the clinical and field internship requirements, i.e., the minimum number of hours, the required skills, certification/ licensure level of course preceptors, etc.

3. A course outline that follows the sample format above. Inclusion of dates, times, correct section titles, objectives, hours of instruction must be included. In addition the written examinations must be identified in the course outline.

4. Objectives for the automated defibrillation training must reference the N.C. EMT-D Initial Training Program Outline.

VII ORDERING INFORMATION

Superintendent of Documents
Government Printing Office
Washington, D. C. 20402
Telephone: (202) 783-3238

Make check or money order payable to "Superintendent of Document"

Document: Emergency Medical Technician - Intermediate: National Standard Curriculum

(Revised November 1990)

Instructor's Lesson Plans 050-003-00428-6	$10.00
Course Guide 050-003-00429-4	$ 1.50

EMT-Defibrillation Guidelines are available from the Office of Emergency Medical Services Regional Office in your area.

APPENDIX M

MANDATORY EMT-PARAMEDIC MINIMUM DRUG LIST

Explanation: It is assumed that almost all EMT-paramedic providers will elect to expand this drug list with pharmaceuticals from the EMT-P drug formulary. This group of drugs must be available for use by any EMT-P provider and be located on the ambulance.

I.V. SOLUTIONS

D5W 250cc or 500cc

Lactated Ringers 1000cc

Normal Saline 1000cc

PHARMACEUTICALS (Parenteral)

Atropine 1 mg/ml

Dextrose - 50% 50cc amps

Epinephrine 1:10,000-10cc

Epinephrine 1:1,000-1cc

Lidocaine 1 gm

Lidocaine 100 mg

Naloxone (Narcan)

PHARMACEUTICALS (Oral/Sublingual)

Nitroglycerin 1/150 gr or 1/200 gr tabs

or nitroglycerin sublingual spray

Syrup of Ipecac

(Revised November 1990)

APPENDIX N

OPTIONAL EMT-PARAMEDIC DRUG FORMULARY

ACLS DRUGS

*Adenosine

Atropine
Bretylium

Calcium Chloride/Gluconate

Dobutamine

Dopamine

Epinephrine

Isoproterenol

Lidocaine

NaCl Injection

Nifedipine

Procainamide

Propranolol

Sodium Bicarbonate

Verapamil

ANESTHETICS

Lidocaine 1% or 2%

Procaine 1% or 2%

CARDIORESPIRATORY AGENTS

Albuterol

Aminophylline

Furosemide

Isoetharine

CARDIORESPIRATORY AGENTS (cont.)

Metaproterenol

Nitroglycerin (Paste or Sublingual)

*Racemic Epinephrine

Terbutaline (Injectable or Inhaler)

I.V. SOLUTIONS

D5 Lactated Ringers

D5 1/2 Normal Saline
D5 1/4 Normal Saline

D10 Water

D5 Normal Saline

OTHER

Diazepam (Valium) Injectable

Diphenhydramine (Benadryl) Injectable

Dextrose - 50%

Glucagon (Intramuscular or Subcutaneous)

I.V. steroid Preparations such as Solu-Medrol and Decadron

Mannitol

Naloxone (Narcan) Injectable

Phenytoin (Dilantin) Injectable

Promethazine (Phenergan)

Syrup of Ipecac

Thiamine (Intramuscular or Intravenously)

ANALGESICS

Meperidine (Demerol)

Morphine Sulfate

Nalbuphine Hydrochloride
(or similar drugs)

Nitrous Oxide via respiratory route

INTERHOSPITAL TRANSFER DRUGS

Antibiotics I.V.

Blood and Components I.V.

Heparin Drip I.V.

Nitroglycerin Drip I.V.

*Potassium Chloride

Urokinase

Streptokinase

Tissue Plasminogen Activator

*Additions since May 1989

APPENDIX O

MANDATORY EMT-ADVANCED INTERMEDIATE MINIMUM DRUG LIST

Explanation: It is assumed that almost all EMT-Advanced Intermediate providers will elect to expand this drug list with the EMT-AI drug formulary. This group of drugs must be available for use by any EMT-AI provider and be located on the ambulance.

I.V. SOLUTIONS

D5W 250 cc OR 500 cc

Lactated Ringers 1000 cc

Normal Saline 1000 cc

PHARMACEUTICALS

Atropine 1 mg/ml

Dextrose - 50% 50cc amps

Epinephrine 1:10,000-10 cc

Epinephrine 1:1,000-1 cc

Lidocaine 1 gm

Lidocaine 100 mg

Naloxone (Narcan)

PHARMACEUTICALS (ORAL/SUBLINGUAL)

Nitroglycerin 1/150 gr or 1/200 gr tabs

or Nitroglycerin Sublingual Spray

Syrup of Ipecac

(Revised November 1990)

APPENDIX P

OPTIONAL EMT-ADVANCED INTERMEDIATE DRUG FORMULARY

I.V. SOLUTIONS

D5 1/2 Normal Saline

D5 Normal Saline

D5 1/4 Normal Saline

D10 Water

D5 Lactated Ringers

ACLS DRUGS

Sodium Bicarbonate

INTERHOSPITAL TRANSFER DRUGS

Blood and Components I.V.

*Potassium Chloride

(Revised November 1990)

APPENDIX Q

EQUIPMENT LIST

The number of each item required for an Emergency Medical Science program will depend on the number of matriculated students. The list that follows is the minimal type that must be in place at the offering college.

- Mannikins
  - intubation
    - adult
    - infant
  - chest decompression
  - cricothyroidotomy
  - injection simulator
  - urinary catheterization
  - obstetrical
  - IV infusion
  - CPR
    - adult
    - child
    - infant
    - trauma

- Rescue
  - traction splint
  - air splints
  - scoop stretcher
  - Stokes basket
  - long spine board
  - short spine board
  - extrication device
  - extrication tools/rescue equipment

- BLS
  - suction device
  - stretcher
  - sphygmomanometer
  - stethoscope
  - communication equipment
  - oxygen with regulator
  - airway adjunct equipment
  - bandaging supplies
  - M.A.S.T.
  - infection control protective equipment

- ACLS
  - monitor/defibrillator
    - 1) automatic
    - 2) manual
  - external cardiac pacer
  - rhythm simulator

APPENDIX R

TEXTS AND REFERENCES

Medicine for the Outdoors: A Guide to Emergency Medical Procedure and First Aid for the Wilderness Traveller, 1985, Auerback, Paul S., Little Brown, Boston, MA

Principles and Practices of Emergency Medicine, 2nd ed., Vols. 1 & 2, 1986, Schwartz, George R., W.B. Sanders, Philadelphia, PA

EMT-D: Prehospital Defibrillation, 1986, Stults, Kenneth R. Brady Communications/Prentice-Hall

Injury in America, 1985, Committee on Trauma Research, Commission on Life Sciences, National Research Council and the Institute of Medicine, National Academy Press

Cardiovascular Emergencies: Current Therapy, 1985, Chung, Edward, S. Karger, Basel, NY

Emergency Preparedness: Disaster Planning for Health Facilities, 1986, Seliger, Jerome S., Aspen Systems Corp.

Pre-Hospital Care of Cardiovascular Emergencies: Management Guidelines, 1983, American Heart Association, Greater L.A. Affiliate, Los Angeles, CA

American Medical Association's Handbook of First Aid and Emergency Care, 1980, American Medical Association, Random House

Emergency Care: Assessment and Intervention, 3rd ed., 1982, Warner, Carmen Germaine, Mosby, St. Louis

Basic Emergency Care of the Sick and Injured, 4th ed., 1989, Parcel, Guy S., Mosby, St. Louis, MO

Early Care of the Injured Patient, 3rd ed., 1982, Committee on Trauma, American College of Surgeons, Saunders, Philadelphia, PA

Emergency Care, rev. ed., 1989, Grant, Harvey D., Robert J. Brady Co., Bowie, Maryland

Emergency Medical Treatment: A Text for EMT-As and EMT-Intermediates, 2nd ed., 1987, Caroline, Nancy L., Little, Brown, Boston, MA

First Responder, 2nd ed., 1987, Bergeron, J. David, Robert J. Brady Co., Bowie, Maryland

The First Responder: The Critical First Minutes, 1982, Judd, Richard L., Mosby, St. Louis, MO

Monitoring Heart Rhythm, 1982, Summerall, Charles P., Wiley, New York, NY

Emergency Cardiac Care, 2nd., 1982, Huszar, Robert J., Robert J. Brady Co., Bowie, Maryland

Emergency Psychiatry, 1983, Rund, Douglas A., Mosby, St. Louis, MO

Handbook of Overdose and Detoxification Emergencies, 1983, Giannini, A. James, Medical Examination Pub. Co., New Hyde Park, NY

Emergency Response to Crisis: A Crisis Intervention Guidebook for Emergency Service Personnel, 1981, Mitchell, Jeffery T., Robert J. Brady, Bowie, Maryland

Year Book of Emergency Medicine, Vol. 1, 1983, Year Book Medical Publishers, Chicago, IL

Year Book of Emergency Medicine, 1989, Wagner, David K., Year Book Medical Publishers, Chicago, IL

Year Book of Emergency Medicine, 1990, Wagner, David K., Year Book Medical Publishers, Chicago, IL

EMT Manual, 1984, Soper, Roy G., W.B. Saunders, Philadelphia, PA

Emergency Nursing: Principles and Practice, 2nd ed., 1985, Sheeny, Susan Budassi, Mosby, St. Louis, MO

Respiratory Emergencies, 1988, Mosby, St. Louis, MO

Emergencies, 1985, Springhouse Corp

Cardiac Crises, 1984, Springhouse Corp

Emergency Management of Pediatric Trauma, 1985, Mayer, Thom, Saunders, Philadelphia, PA

Emergency Management of Skin and Soft Tissue Wounds: An Illustrated Guide, 1984, Kaplan, Ernest N., Little Brown, Boston

Sudden Cardiac Death, 1985, Josephim, Mark E., F.A. Davis Co., Philadelphia, PA

Emergency Problems in the Elderly, 1985, Hoffer, Edward P. Medical Economics Books, Oradell, NJ

Shock and Related Problems, 1984, Shires, G.T., Churchill Livingstone, New York, NY

Street Law: Rights and Responsibilities of the EMT, 1983, Frew, Stephen A., Reston Pub. Co., Reston, VA

Managing Emergency Medical Services: Principles and Practices, 1984, Newkirk, William L., Reston Pub. Co., Reston, VA

Management of Wilderness and Environmental Emergencies, 1988, Auerbach, Paul S., Macmillan, New York, NY

Emergency Patient Care: Prehospital Ground and Air Procedures, 1983, Jacobs, Lenworth M., Macmillan, New York, NY

Orthopedics in Emergency Medicine: The Extremities, 1st ed., 1982, Simon, Robert E., Appleton-Century-Crofts, New York, NY

Chemical Emergency Action Manual, 2nd ed., 1983, American Lung Association of Western New York, Mosby, St. Louis, MO

Ambulance and E.M.S. Driving, 1983, Hanna, James A., Reston Pub. Co., Reston, VA

Management of Thoracic Trauma Victims, 1st ed., 1980, Trinkle, J. Kent, Lippincott, Philadelphia, PA

The Basis and Practice of Traumatology, 1983, Hughes, Sean, Aspen Systems Corp., Rockville, MD

Controversies in Trauma Management, 1985, Dailey, Robert H., Churchill Livingstone, NY

Shock Trauma/Critical Care Manual, 1982, Cowley, R. Adams, University Park Press, Baltimore, MD

Respiratory Emergencies, 2nd ed., 1982, Moser, Kenneth M., Mosby, St. Louis, MO

Emergency Medicine: Concepts and Clinical Practice, 2nd ed., 1987, Baker, Frank, Mosby, St. Louis, MO

Diagnostic Testing in the Emergency Department, 1984, Flomenbaum, Neal, and Lewis Goldfrank, Aspen Systems, Rockville, MD

Emergency Medical Therapy, 3rd ed., 1988, Eisenberg, Mickey S., Saunders, Philadelphia, PA

Manual of Emergency Medicine, 4th ed., 1983, Year Book Medical Publ., Chicago, IL

Flint's Emergency Treatment and Management, 7th ed., 1985, Flint, Thomas, Saunders, Philadelphia, PA

Emergency Care in the Streets, 3rd ed., 1987, Caroline, Nancy L., Little Brown, Boston, MA

Emergency Care Principles and Practices for the EMT-Paramedic, 2nd ed., 1982, Prentice Hall, Englewood Cliffs, NJ

Manual of Advanced Pre-Hospital Care, 2nd ed., 1984, R.J. Brady, Bowie, MD

Paramedic Skills Manual, 2nd ed., 1989, Phillips, Charles, R. J. Brady, Bowie, MD

Mobile Intensive Care Manual, 1st ed., 1982, Brown, Elaine K., Lippincott, Philadelphia, PA

Principles of Trauma Care, 3rd ed., 1985, Shires, G. Tom, McGraw Hill, New York, NY

Handbook of Nephrological Emergencies, 2nd ed., 1985, Parrish, Alvin, Medical Examination Publ. Co., New Hyde Park, NY

Management and Trauma, 4th ed., 1985, Zuidema, George D., Saunders, Philadelphia, PA

Pulmonary Circulation and Acute Lung Injury, 1985, Said, Sami I., Futura Pub. Co.

The Hospital's Role in Emergency Medical Service Systems, 1984, Peisert, Margaret, American Hospital Publ., Chicago, IL

Pediatric Emergency Management: Guidelines for Rapid Diagnosis and Therapy, 1982, Cohen, Stanley A., Robert J. Brady, Bowie, MD

Textbook of Pediatric Emergency Medicine, 2nd ed., 1988, Fleisher, Gary R., Williams and Wilkens, Baltimore, MD

Intravenous Medications: A Handbook for Nurses and Other Allied Health Personnel, 1990, Gahart, Betty L., Mosby, St. Louis, MO